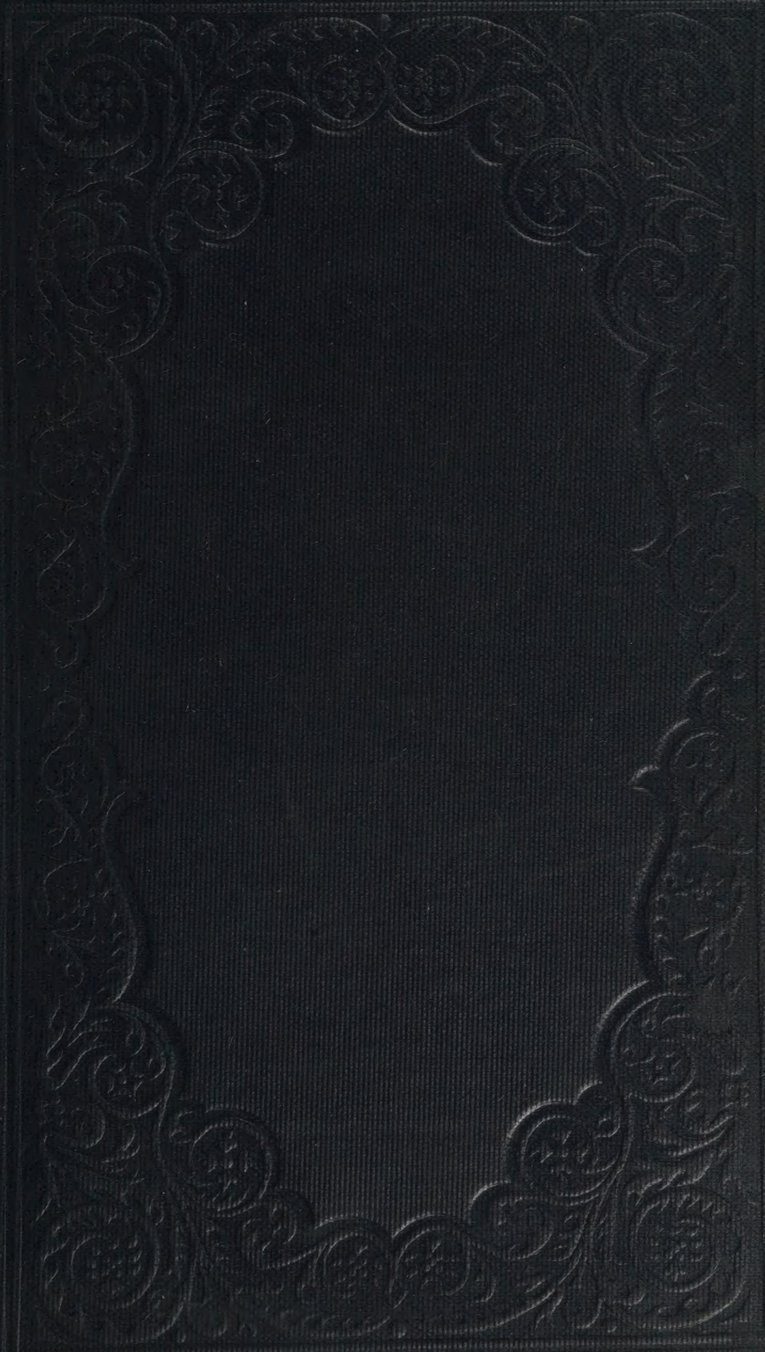

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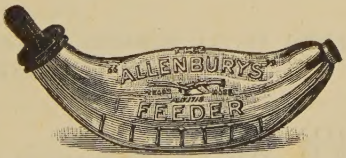

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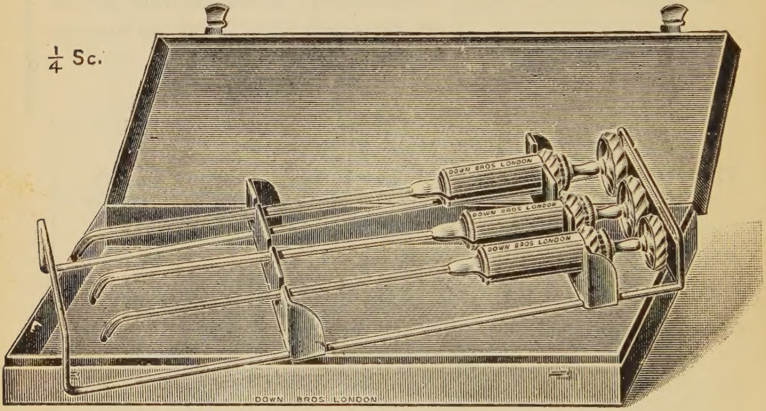

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Synopsis.

ABSTRACTS AND OTHER SHORT ARTICLES FROM THE MEDICAL JOURNALS, SHOWING THE MOST IMPORTANT INDICATIONS OF TREATMENT, PUBLISHED BY DIFFERENT WRITERS DURING THE HALF YEAR.

ARRANGED ALPHABETICALLY.

General Medicine and Therapeutics.

ALIMENTARY GLYCOSURIA.

Strauss (*Berl. klin. Wchnschr.*, 1900, No. 13) deals with the important point of the relationship between the sugar and starch of the food and excretion of sugar in the urine. He shows that in the milder cases only the sugar of the food influences the sugar of urine, while in severe cases starchy food is also thus misapplied. He does not believe that true diabetes is the sequel in a large number of instances of alimentary glycosuria, but, in giving a prognosis, this possibility must be kept in mind. Patients suffering from pneumonia frequently have glycosuria after ingestion of sugar, and some also after starch, and those of alcoholic habits so long as they were under this influence. Alcoholic epileptics, as a rule, rapidly develop glycosuria on taking an excess of sugar or starch, provided that they have recently indulged in an alcoholic bout; and this fact may be of use in differential diagnosis, where it is difficult to determine whether fits are due to true epilepsy or caused by alcoholic excesses, genuine epilepsy showing no tendency towards the development of alimentary glycosuria. (Edinburgh Medical Journal, June, 1900.)

ANÆMIA, ORGANIC IRON IN SECONDARY.

(From Dr. William Murrell's paper.) I think it may be fairly concluded that although organic iron is undoubtedly useful in cases of secondary anæmia, it is less efficacious than the organic salts of iron. This is in accordance with the teaching both of

Ringer and of Stockman. I had an opportunity of submitting the results to Prof. Stockman, and he agrees generally with the conclusion. In one of his papers he says:—"Of one thing I feel convinced, namely, that in chlorosis the ordinary inorganic preparations of iron cure much more quickly than organically combined iron does. Patients fed on even a rich and varied diet, containing plenty of organic iron, do not as a rule recover until inorganic iron is administered. I have tested this frequently, and have no doubt that it holds good in the great majority of cases, although some cases of chlorosis do recover spontaneously, and without any treatment. That is on the iron of the food alone." It would seem that a diet rich in organic iron does not increase the percentage of hæmoglobin, although it would be anticipated that it would do so. This in no way detracts from the credit due to the originator of the "spinach-iron" preparation. Spinach is a useful laxative, and we all recognise the necessity of giving laxatives or purgatives with iron in the treatment of anæmia. In conclusion, I may say that I have not that implicit faith in Blaud's pill in the treatment of anæmia which is shown by many people. I believe that far better results are obtained from a five-grain pill of exsiccated sulphate of iron taken three times a day. It is essential, however, that the pill should be made up with simple syrup or syrup of glucose, and not with a vegetable extract. Made with syrup, it disintegrates as soon as it reaches the stomach, whilst the pill made with a vegetable extract forms a sticky mass which adheres to the mucous membrane of the stomach, where, even if it does not produce a gastric ulcer, it gives rise to a great deal of pain and discomfort. (Medical Press and Circular, May 9, 1900.)

ANÆMIA, PERNICIOUS.

Dr. Richard C. Cabot, of Boston, read before the Association of American Physicians this very interesting paper, based on 110 cases. In his cases there had been 57 males and 53 females, and only four cases had followed parturition. Late middle life predisposed towards it, as shown by the fact that in 82 of his cases the patients had been over forty years of age. He thought that pernicious anæmia was much more frequent than the text-books would lead one to suppose. Some cases had come to him which had previously been diagnosed as tuberculosis. He thought that there was very little, if any, relation between the menopause and pernicious anæmia. It had nothing to do with syphilis. Hemorrhage was quite common, especially of the nose and gums. He spoke of the striking constancy of the symptoms in almost all of his cases, even in some of his so-called mild ones, viz., muscular weakness, dyspnœa, gastro-intestinal disturbance (paroxysmal diarrhœa). The appetite had been poor in all but three cases, and in these it had been ravenous. In two-thirds of his cases there had been a temperature of 99° to 100° F., and even higher. The urine in 53 cases had been normal, while others had had a trace of albumin with granular casts. Nervous symptoms had not been constant. Some cases had had myelitis. As to the blood, the white corpuscles were subnormal; the number of red corpuscles was 2,500,000. The diameter of the white corpuscles was greater than normal. The proportion of lymphocytes was relatively high. Dr. Cabot said that there was no relationship between the symptoms and the blood condition. The average duration of this disease was from one to two years. The longest-lived case he had had was five years. All treatment, he thought, was hopeless, unless the use of laxatives would be of service, working along the line of Hunter's idea, that of gastro-intestinal toxæmia. Dr. Cabot thought that arsenic did little, if any, good in these cases. (Medical Record, May 12, 1900.)

ASPIRINE.

Aspirine is a near relative of salicylic acid, and occurs in white crystalline needles, soluble in water in the proportion of one per cent. It is very soluble in ether and easily decomposed. It is claimed to have the advantage over salicylic acid in that it does not irritate the stomach, that it is speedily absorbed and speedily eliminated, and therefore rarely produces the secondary symptoms produced by large doses of salicylic acid. It does not destroy the appetite. The daily dose is 45 grains, to be administered with some syrup, such as sugar and water.—*Journal de Médecine de Paris*, October 29, 1899. (Therapeutic Gazette, January 15, 1900.)

BACILLUS TYPHOSUS AND B. COLI COMMUNIS.

Peorkowski has reported a new method for the differentiation of the two bacilli, by growing them on a urine-containing medium, and this method Mackenna (*Ed. Med. Jour.*, November, 1899) has followed, and found to yield satisfactory results. The medium is thus made. Normal urine, sp. gr. 1020, is kept for two or three days till it assumes an alkaline reaction; it is then mixed with $\frac{1}{2}$ per cent. peptone and 3·3 per cent. plate gelatine, boiled for an hour in a water bath, and then filtered without its temperature being allowed to fall. Stab cultures of the B. coli communis appear in this medium as a firm, whitish grey streak, with a broad superficial growth, the streak having finely-toothed edges. Similar cultures of the B. typhosus remain brighter and more transparent, are very granular, and show "absolutely no superficial growth." In plate cultures the colonies of B. coli communis appear (after an incubation of about twenty hours at 22 deg. C.) as rounded, yellowish, finely granular are sharply bordered; while the colonies of B. typhosus are colourless and have an irregular periphery with threadlike processes radiating from their centres. After experimenting with these media and pure and mixed cultures of these organisms, typhoid stools were examined by the method. Five cases were examined in which typhoid was suspected, and the results of Widal's reaction were not known. At the end of thirty hours one could distinguish easily, under slight magnifications, that the bacillus typhosus was present in three of the five cases examined, and in these Widal's test was positive; in two no bacillus typhosus was present and Widal's reaction was negative. The method should be of great use in settling the diagnosis of typhoid. It would be interesting to find out at what period of the disease the specific bacillus appears in the stools. (From abstract in Quarterly Medical Journal, February, 1900).

BACTERIOLOGY AND PRACTICAL MEDICINE.

The following are possible sources of misunderstanding between the clinician and bacteriologist:—(*a*) The chance for error in the laboratory (from confusion of specimens, deterioration of cultures, or culture media, &c.). (*b*) The difficulty of interpreting the results of bacteriological investigation, or of understanding just how decisively the bacteriologist intends to speak on the point in question. (*a*) The bacteriologist knows that some of his verdicts are relatively final—other less so, and more subject to modification, according to various other circumstances. He knows when his technic has been above suspicion, and when (either from the condition of the material furnished him, or the nature of test attempted) his results are to be taken less seriously. All this the bacteriologist knows—but the clinician frequently does not. Hence arise errors and misunderstandings, which not infrequently drive the clinician to an utterly unreasonable distrust of all laboratory results. (*b*) Few clinicians realise how difficult it is to interpret the results of bacteriologic examinations. For example, to draw the properly limited inference from the announcement of a positive Widal reaction; to be enough, and not too much, alarmed by a positive reaction to tuberculin, or by the finding of Klebs-Löffler bacilli in a patient's throat. Especially is this true where relatively indefinite quantitative expressions enter into the bacteriologist's report. Only he who makes the test can really appreciate what is meant in a given case by such phrases as "Very numerous tubercle bacilli, very virulent streptococci, very motile organisms, very numerous malarial organisms, &c." (From Dr. R. C. Cabot's paper in the Boston Medical and Surgical Journal, May 10, 1900.)

BATHS.

The graduated spray and needle bath will prove beneficial in cases of neurasthenia, chlorosis, anorexia, and in the secondary anæmia and debility of convalescence. They should be taken at least three times a week, and the frequency, lowness of temperature, and duration of baths should be gradually increased as recovery progresses. Persons of feeble circulation with a tendency to cyanosis should be directed to take from three to five minutes warming in the outermost chamber of the Turkish bath (*a*, 5) as a preparation for the impact bath prescribed. Buxbaum strongly recommends the general needle bath of rapidly alternating temperature (so-called "Scottish douche") as a treatment of various kinds of neuralgia and sciatica. Of eighty-three cases he was successful in 95 per cent. The general cold douche is a useful adjunct in the treatment of obesity. Very hot local douches relieve the pain of lumbago, muscular rheumatism, and subacute arthritis. Cool or cold ones are prescribed as a tonic remedy in the later stages of the treatment of inflammatory affections, and are of great service in combination with massage in the treatment of old fractures and injuries and in chronic synovitis. The Aix douche is indicated in all toxæmic or lithæmic conditions, especially, of course, when characterised by a high tension pulse, and it also relieves some cases of chronic rheumatism. Ascending douches of low or graduated temperature promote peristalsis, and are therefore indicated in atonic constipation and in some cases of piles. More painful and acute hæmorrhoidal symptoms and pruritus are often greatly relieved by the ascending spray of a temperature as high as is bearable. (From Dr. C. J. White's paper in the Bristol Medico-Chirurgical Journal, March, 1900.)

BRASS POISONING, CHRONIC.

The main features in the diagnosis of chronic brass poisoning are, in the early stages, anæmia accompanied by excessive debility and nervousness, with neuralgic pains, occurring in persons engaged in brass occupations, and showing a green line at the bases of the teeth ; in later stages, emaciation, tremors, cold sweatings, cough, extreme weakness, and greenish pallor, with the aforementioned dental line, occurring in similarly occupied individuals. I understand that not a few cases of lead poisoning are notified from Birmingham as occurring amongst brassworkers ; and while it must be conceded that lead is occasionally used as an adulterant of brass, still it is hard to believe that its employment in this capacity is so general as to lead to a noticeable production of plumbism. One process in the "putting together" (of gas fittings, for instance) consists in the application of white lead to the joints to prevent leakage, and in this department it is probable that most of the true cases of plumbism arise ; but it is not unlikely that occasionally illnesses are reported as due to lead which in reality are instances of chronic brass poisoning. Symptoms of anæmia, colic, constipation, dyspepsia, and general emaciation are common to both, but the absence of the blue line upon the gums and the presence of the distinctive green line on the teeth are sufficient to decide in which category the case must be placed. (From Dr. Murray's paper in the British Medical Journal, June 2, 1900.)

CHLOROSIS, RETINAL COMPLICATIONS IN.

[Dr. H. McL. Kinghorn relates two cases with optic neuritis and retinal hemorrhages, and one with retinal hemorrhage alone. He thus concludes :]—There are a few points to which I wish to direct attention :—(1) Only one eye was affected. (2) In all three cases the onset was sudden. (3) The rapid improvement under iron. (4) The neuro - retinitis and hemorrhages occurred well on in the course of the disease. (5) Hypermetropia was present in both the cases with neuro-retinitis. I omitted to look for it in the other case. (6) I take the liberty of quoting from Gower's Medical Ophthalmoscopy, pp. 101 and 102, to explain why iodide of potassium and mercury were given. "Optic neuritis is so frequently associated with syphilitic disease of the brain and its membranes that the administration of iodide of potassium should be a rule in all cases in which the age of the patient is such that acquired syphilis is possible. Iodide in large doses secures a more prompt improvement than mercury, and does no harm if the disease is not syphilitic in nature. Additional benefit may, however, result from the subsequent use of mercury. The completeness of the recovery depends upon the promptness with which the progress of the disease can be checked. Even in syphilitic cases it must be remembered that the intra-ocular neuritis, being probably not syphilitic in nature, although the consequence of syphilitic brain disease, the remedy employed does not influence the inflammatory products in the papilla as it does the disease of the brain." Hughlings Jackson believes that iodide of potassium is sometimes useful when there is no syphilis. (Montreal Medical Journal, January, 1900.)

COCAINE POISONING.

Dr. H. E. Knight records a fatal case in a woman aged 22 years, who was eight months pregnant. The chief points in this case to draw attention to are :—(1) The beginning of the habit : This arose from a friend's advice to the patient to rub a little of the cocaine on the gum for toothache. The feelings of relie afforded by this, mental as well as physical, evidently induced a continuance of the habit. (2) The ease with which the drug was obtained in such large quantities points to the necessity for including it in the list of those the sale of which is restricted. (3) The symptoms during the last six months or so of life, which were noticed, but not attributed to their true cause, were: dizziness, nausea, and at times vomiting, dilated pupils, attacks of faintness, increased thirst, and desire for stimulants, varying moods of temper, viz., at times in very good spirits (her natural state before this illness) alternating with attacks of depression, often severe. (4) As regards the amount of cocaine taken, though the usual dose is from $\frac{1}{2}$-2 grains, the patient took it latterly at the rate of from 30 grains to at least 60 grains per diem, and possibly more. As to the fatal amount, it was at least 30 grains, almost certainly taken in one dose; and it is quite probable that some had also been taken earlier in the evening. The above are the salient features of this case. It is a matter for much regret that the symptoms due to the drug were masked by and mistaken for those due to her pregnant condition. (Quarterly Medical Journal, May, 1900.)

DIABETES.

Dr. M'Vail demonstrated four cases of diabetes before the Glasgow Eastern Medical Society. One was specially interesting from the fact that the patient could give the very hour of the day on which he took ill. While sitting writing at his desk he suddenly felt a pain in the small of his back, and thirst straight away developed. The thirst progressed, and within a few days all the typical symptoms of diabetes were established. Dr. M'Vail believed that arsenic had a very decided effect in diminishing the amount of sugar in the urine, if the patient could stand the large doses required, viz., 20 or more minims of Fowler's solution thrice daily. In this case 15 drops set up such severe diarrhœa that the arsenic had to be stopped. The knee-jerks were lessened and delayed in this case; and, in another, under Dr. M'Vail's charge some time ago, arsenic, when given in 22 minim doses thrice daily, caused all sugar to disappear from the urine, but gave rise to a well-marked peripheral neuritis. Dr. M'Vail has no faith in codeia, opium, or uranium nitrate as agents in any way capable of diminishing the amount of sugar in the urine. (Glasgow Medical Journal, February, 1900.)

DIABETES ACUTISSIMA.

Dr. W. A. Milligan gives the history of this case in a boy aged 5 years, in *The Lancet* (December 25, 1899). Any sudden insistence on an antidiabetic diet seems to predispose these cases towards coma. On admission, the boy was very weak and wasted, and complained of an intense thirst. He was very restless, and his respiration was 40 per minute. Pulse 140, temperature 97.4 degs. F. Tongue coated, but breath had distinct, sweet smell. Ten days before admission the patient was very constipated, and received enemata, which relieved the trouble. Five days later there was severe vomiting and great thirst. During the next three days these symptoms got steadily worse, and the boy lost flesh rapidly. Two nights before admission he had incontinence of urine. On admission, the urine contained a considerable quantity of sugar, and some albumin. Codeine pills and an antidiabetic diet were prescribed, but the temperature continued subnormal, the pulse and respirations increased in frequency, until the patient became comatose. He died after a few hours of coma. The writer states that the case was remarkable for its extreme acuteness. Incontinence of urine, when it occurs suddenly, is a symptom which should make us suspect diabetes. The occurrence of albumin with sugar is a bad prognostic sign. Heredity plays no part in this case. The peculiar sweet smell of the breath is a sign of impending coma. (Pediatrics, May 1, 1900.)

DIABETES, SODIUM SALICYLATE IN.

Dr. Litten (*Therapie der Gegenwart*, 1899, No. 3; *Deutsche Aerzte-Zeitung*, September 15) prescribes a tablespoonful of a four-per-cent. solution to be taken every two or three hours, and says that larger doses are quite unnecessary. He finds that under the salicylate treatment the proportion of sugar in the urine sinks one or two per cent. almost always, but it is against a large number of the " nervous " complications that the drug is mainly useful. Especially brilliant, says Dr. Litten, is its action in allaying the itching of diabetics, and even in causing the subsidence of the weeping eczema that is apt to follow, although occasionally preparations of tar prove efficient when the salicylate has failed. In neuralgic complications, such as sciatica, intercostal neuralgia, and zoster, the drug often proves highly efficient. The author dwells particularly on the virtues of sodium salicylate in decreasing the amount of urine secreted and abating the thirst, both of which symptoms he interprets as of nervous origin. This action of the salicylate, he says, is extraordinary in many cases. It will be seen that Dr. Litten does not allege that sodium salicylate is to be regarded as curative of so serious a disease as diabetes mellitus, but, if his experience with it as a palliative proves to be that of most physicians who employ it in the treatment of that disease, a decided advance will have been made in the effort to prolong the lives of diabetics and relieve them of much distress. (From abstract in Dublin Journal of Medical Science, January, 1900.)

DIABETIC COMA, THE PATHOLOGY OF.

Dr. Grube discussed before the Pathological Society of London the various theories which had been advanced in explanation of the above condition. Amongst others, that of acetone poisoning had engaged much attention. He observed, however, in regard to this, that acetone was poisonous only in very large doses, and that the symptoms resulting were not those of diabetic coma. He had performed twelve experiments upon cats by injecting intravenously beta amido-butyric acid in aqueous solution. Narcosis followed; the pupils first dilated, then contracted; the respiratory movements became slow and shallow; the blood pressure was increased. In the urine sugar was in many cases present, but to this the author attached no significance, as such a result arose in cats from various operative procedures. Di-acetic acid was present; and in some, acetone. He concluded that the substance with which he had experimented was one of those concerned in producing diabetic coma. (British Medical Journal, March 10, 1900.)

DIABETIC COMA, THE TREATMENT OF.

An increasing knowledge of the dietetics of this disorder teaches the profession that strict adherence to antidiabetic food favours the development of coma. While the exclusion of carbohydrates lessens the amount of sugar in the urine and thus overcomes one symptom of the disease, it is doubtful, says the *Medical Review*, if the diabetes is improved by the lessening of the sugar, in the majority of cases. Greater benefit is to be derived from lessening the carbohydrates than from their total exclusion. The presence of acetone in the urine should at once direct the attention of the physician to the possibility of the development of coma. Even when this is not noted, the peculiar odour of new-mown hay in the breath or a marked lassitude in the patient should be sufficient to direct the attention to this possibility. These symptoms should be followed by an abrupt change from an antidiabetic diet to a strict milk diet. Saline purgatives should be administered to clear out the intestinal tract, as it is possible that diabetic coma may have its origin in fermentations in the intestinal tube. Sodium bicarbonate should be administered in large doses, to overcome the lessened alkalinity of the blood. If coma develops, the following solution should be injected into the colon: Sodii chloridi ʒi, sodii bicarbonatis ʒiss, aquæ dest Oii. If this is not followed by some relief, the same solution, properly sterilised, should be given hypodermically; or in cases of great urgency it may be thrown into the veins. (Journal of the American Medical Association, December 16, 1899.)

DIPHTHERIA AND NASAL RHINITIS.

The following are Dr. E. S. Yonge's conclusions:—It appears probable (1) That membranous rhinitis (this term being understood not to include primary nasal diphtheria) is commoner than is usually supposed, cases being overlooked owing to the mild constitutional symptoms, or regarded as catarrhal rhinitis, &c. (2) That the disease may occur in one of two forms, which concur in the local appearances, the prolonged course and the mildness or absence of constitutional symptoms, but differ in the presence or absence of the Klebs-Löffler bacillus and in their power of infection. (3) That the form associated with the Klebs-Löffler bacillus is considerably more common than the simple form, and is a mild local manifestation of diphtheria, differing sharply, however, from the usual form of primary nasal diphtheria. (4) That, inasmuch as the two forms of membranous rhinitis are clinically indistinguishable, a bacteriological examination should be practised in every case, and isolation of the patient carried out, at least until the result of the examination is made known. (Practitioner, December, 1899.)

DIPHTHERIA AND SKIN ERUPTIONS.

This case was observed by Schütze in the Institute for Infectious Diseases at Berlin (*Deut. Med. Wochenschrift*, December, 1899). A woman, aged 25 years, was admitted for diphtheria, confirmed by bacteriological examination. She did well with local applications and was given no antitoxin. A few days after the fall of temperature she had swellings of both ankles, both knees, the left wrist, and the left elbow. About the same time she developed erythema nodosum of both legs and thighs. These symptoms subsided under treatment with salicylate of sodium (grs. xxx. daily), combined with local treatment. This case is interesting, because Hartung, who collected a number of cases of eruptions occurring during diphtheria treated by antitoxin, found that seventy-three cases out of 273 had a generalised eruption, and twenty an eruption localised at the point of injection (*Jahrbuch für Kinderheilkunde*, vol. xlii., 1896). However, Baginsky has since shown that diphtheria may be complicated by erythematous lesions of the extremities before antitoxin has been given; these eruptions have, therefore, nothing to do with the serum. Swelling of the joints has also been noted under the same condition by Benardbeig. Hence we must conclude that some cutaneous and other conditions have been erroneously attributed to the antitoxin treatment, whereas they were really complications of the disease itself. (From Dr. Marshall's periscope in Treatment, May, 1900.)

DIPHTHERIA BACILLUS IN HEALTHY THROATS.

There is no doubt now that genuine diphtheria bacilli may occur and exist for a good while in healthy throats. These bacilli are virulent, but the patient is not at the moment susceptible to infection. Often in these cases a mild injection of the throat exists, indicating that the superficial layer of tissue is somewhat affected by the presence of the diphtheria bacilli. It is these very mild cases which are important to public health and which create such a difficult problem for health authorities to solve. Undoubtedly these cases serve to spread the disease. They have so few symptoms, however, in some cases none, that it is a hardship to prevent them from going about their business. This prevention, however, is for the public good, and should be insisted on. (From Dr. Abbott's remarks in the Medical News, May 12, 1900.)

DIPHTHERIA, PREVENTION OF.

I venture to suggest some practical recommendations, in the hope of stimulating municipal authorities to consider what steps can reasonably be taken to stamp out diphtheria. (1) Medical practitioners should be urged to have all persons with suspicious sore throats, and all those who have come into intimate contact with the sick from this disease, examined by the bacterial test. And all those persons in whom the diphtheria bacillus is found should be isolated until the absence of this micro-organism has been ascertained. (2) All persons recovering from diphtheria, however mild the attack has been, should be isolated until the specific micro-organism has disappeared from their throats. If this is impracticable, adult convalescents should be warned that they are liable to communicate the disease to children, and children should on no account be allowed to go to school until a satisfactory negative test has been obtained. (3) Whenever diphtheria has broken out in a school or other institution, all the inmates should be submitted to the bacterial test, and those in whom the bacillus is found should be isolated until it has disappeared. (4) Every effort should be made in schools to prevent mouth to mouth infection. (5) A competent bacteriologist should be appointed in every large town to make the necessary examinations. (From Dr. Louis Cobbett's paper in the Edinburgh Medical Journal, June, 1900.)

DIPHTHERIA, SERUM TREATMENT OF.

(From Dr. F. Villy's paper.) With regard to the question of *dosage*, though there are individual variations, it may be said that the rule in these hospitals follows the opinion given in the

Medical Superintendent's Report, which may be quoted here: —"A more extended experience strengthens us in the conclusion that the most essential point in the treatment is to begin it as early in the course of the disease as possible. A dose of 2,000 units will usually secure a result on the first day which 50,000 will not effect on the fourth. For ordinary mild cases on the first day 2,000 units is enough; but when, as sometimes happens, the symptoms have progressed very rapidly even in a few hours, a larger amount must be given. As regards units there is, as far as we know, no limit to the number that may be injected. It is entirely a question of the concentration of the serum. With the strongest that has been supplied to us (4,000 units in ten, and in a few instances in five, cubic centimetres), 8,000 units can easily be given in one injection. And with such a serum the rule must be to give in severe cases 8,000 to 12,000 units when the patient is first seen, followed by another 2,000 to 8,000 units every twelve hours for the next twenty-four or forty-eight hours, or longer, according to the gravity of the case and the persistence of the exudation. But undoubtedly the cardinal point—and we venture on that account to repeat the statement—is to commence the treatment as early as possible."—(M.A.B. Reports, 1896, p. 190.) It will be seen that the above opinion contemplates a total injection of over 40,000 units, if necessary. Such quantities are not often used, but 20,000 units and over are not uncommon. There is little or no evidence that such doses produce any harmful effect, while the good results are often most striking. The rule may be given in another form, and it may be said that antitoxin should be used as early as possible in sufficient dose to produce a distinct reaction in twelve hours: if such reaction be not obtained, a second or third dose must be given till the effect is apparent. It is best to err by giving more than is necessary rather than by giving too little. There can be no question that a large initial dose will frequently produce surprising effects, even in severe cases which have only come under treatment late in the disease, such cases being but little affected by the more ordinary doses of 2,000 to 4,000 units. With such treatment it sometimes happens that a patient who was admitted on the fourth day of disease, or even later, with the throat choked with masses of foul membrane, a profuse nasal discharge and the neck enormously swollen, present an entirely different aspect at the end of about twelve hours. The membrane is often found to be already separating, while the swollen neck is almost normal in size, and the rhinorrhœa has almost ceased; in addition, the patient rapidly becomes much brighter, and his previous restlessness and anxiety is changed to comparative comfort. (Medical Chronicle, January, 1900.)

DIPHTHERIA, SERUM TREATMENT OF.

[There is not absolute unanimity of opinion upon the following subject.] I am strongly of the opinion that antitoxin ought to be given in every case, however mild, unless it is seen too late for the remedy to be of any value. The objection urged against the use of antitoxin in mild cases, that by other methods of treatment 60 to 70 per cent. of cases will recover and that there is, therefore, no necessity to give antitoxin in these sixty or seventy cases, does not seem to me to be sound reasoning. In any individual attack of diphtheria we are dealing with an unknown quantity, with bacilli whose potentiality for mischief cannot be estimated. It does not follow that, because a case appears mild at the onset it will remain mild; attenuated bacilli may show increasing virulence by growth on a suitable medium, namely, the mucous membrane of the pharynx, and at any time grave laryngeal symptoms may supervene in an apparently mild faucial attack in children. In judging of the severity of an attack of diphtheria, two factors have to be taken into consideration—(1) the susceptibility of the patient and (2) the virulence of the organism. Of these factors in any individual patient we know next to nothing. The personal equation is too often lost sight of. One is often surprised to find symptoms of cardiac failure, nephritis, and paralysis occur in cases where one would have least expected these complications. The cells of certain individuals are peculiarly susceptible to the diphtheria toxins, and as we cannot gauge the resisting power of any patient beforehand we are not justified in withholding the antitoxin. (From Dr. Alexander Anderson's paper in the Quarterly Medical Journal, February, 1900.)

DISEASE: PREVENTION OF SPREAD BY SCHOOLS.

Certain desiderata must be fulfilled if the amount of infectious diseases in schools is to be kept at its lowest possible ebb. (1) School-teachers must co-operate with the medical officer of health in supplying him with lists of absentees where there is reason to suspect that the cause of absence is an infectious disease. (2) The medical officer of health in large towns must be aided by a medical inspector or inspectors, who have legal authority to visit and examine suspected children. (3) The parents of school children must be encouraged by every possible means to call in medical aid at the earliest moment, and ensure that children who may possibly be in an infectious condition are not allowed to attend school. The first of these requirements may be greatly aided by the adoption of a system already in force in certain towns. This system was described by Dr. Newsholme in the *British Medical Journal* of September 2, 1889, and is briefly as follows :--The medical officer of healt excludes from school all children from infected houses or from suspected houses, by the powers given him under Sections 81 and 101 of the Education Code. Under the same sections he may certify to the school managers that the scholars on a list supplied by him have, during a specified period, been excluded from school by order of the Sanitary Authority. This certificate, when presented to the Education Department, entitles the school managers to claim grant for the average attendance of those excluded, which is reckoned as two-thirds of the possible number of school attendances during the period embraced by the certificate of the medical officer of health. The plan adopted is to reckon the period of exclusion from the date on which the school-teacher informed the medical officer of health of each case. Of course, this limitation does not apply to cases notified under the Infectious Disease (Notification) Act, but only to the numerous cases which have not been notified, either because they are not embraced in the schedule of this Act, or, being there, have not been notified because no doctor has been in attendance. There is thus a direct inducement to the school-teacher to give the earliest possible intimation to the medical officer of health of all children whose absence is suspected to be due to some infectious complaint. This system of voluntary notification by the teacher seems to fill up the hiatus left by the operation of the Notification Act, and has been found in practice to be of the greatest service in preventing the spread of infectious disease. (From Public Health Article in the Practitioner, February, 1900.)

DISINFECTION BY FORMALDEHYDE GAS.

In accordance with investigations carried out by Dr. A. W. Fairbanks, I have already caused a number of rooms of the City Hospital at Charlottenburg, infected by diphtheria, scarlet fever, measles and typhoid patients, to be disinfected by means of formaldehyde gas, and for this purpose the following rules have been formulated : — (1) All bed linen, body linen, coverlets, &c., are, as hitherto, to be disinfected by steam ; likewise mattresses that during the course of the disease have become contaminated, as in the case of children and typhoid cases so often occurs. (2) If around the bed particles of pus, sputum or the like are found, they are to be removed with cloths, dampened with sublimate solution, and burned. (3) All objects in the room are to be moved from the wall, pillows, cushions, &c., laid over the backs of chairs or otherwise so placed that the gas has access to all sides ; portières and side curtains are to be spread so that the entire surface hangs free. (4) The windows are to be tightly closed, and the lamp made ready in accordance with the directions. (5) At the end of twenty-four hours doors and windows are to be opened, dust collected and burned, room aired and again made ready for use. The advantages which this method has over the hitherto most inconvenient and very laborious procedures, such as rubbing of the walls with bread, washing utensils, furniture and floor with carbolic solution, sterilising every possible article with steam, &c., are the following:—(1) A much higher guarantee of the surety of superficial disinfection than is obtained by rubbing the walls with moist bread, especially by the washing of the upholstery of furniture with carbolic solutions, since in this case one is entirely dependent upon the reliability of the workmen. (2) The most disagreeable feature of previous methods, the injury to the wall paper, paint, hangings, &c., and the complete overturning of the contents of the room, is hereby entirely avoided. In our investigations objects of the most varied kinds, such as polished metal, iron, gold, brass, nickel, variously coloured silk, fine cloth, leather and patent leather, soft and hard rubber, polished woods, paper, oil-cloths, linen, and mattress coverings, &c., remained absolutely unaffected by exposure to the gas. (3) The cost of formaldehyde disinfection should be considerably less expensive than previous procedures, since by the formaldehyde method much less time is required by the workman. (4) The fumes of formaldehyde are non-poisonous for human beings, when in moderate concentration, so that their penetration through cracks and crevices into neighbouring rooms offers no danger to the inhabitants. In contrast to the long-lasting odour of carbolic acid after disinfection with the same, the odour of formaldehyde disappears in a short time, and acts in a high degree as a deodoriser. (From Professor Grawitz's remarks appended to Dr. Fairbank's paper in the Boston Medical and Surgical Journal, December 21, 1899.)

DYSENTERY.

511 cases in 1897 and 337 in 1898 were treated. In mild cases infusion kurchi (hollarrhena anti-dysentrica), which abounds in the jungle of Abu, preceded by a dose of castor oil, was found very efficacious. Drachm doses of sulphate of magnesia or soda were tried with marked benefit. Some benefited by compound myrobolans powder. In chronic (malarial) cases the following combination was found very reliable by quinine sulphate gr. xii, ferri arsenias gr. ii, hydrargyri subchloridi gr. iii, divided into six powders, every four hours, castor oil or sulphate of soda or magnesium being given almost in all cases. If there be severe gripings and tenesmus, Dover's powder or

laudanum. Of course, diet being restricted to bland, nutritious, and farinaceous foods, such as rice and milk; arrowroot or sago with milk, &c. (From Dr. R. Dhari Sinha's reports of the Rajputana Civil Hospital, Indian Lancet, November 16, 1899.)

FOOD, CHEMICAL PRESERVATIVES IN.

Fullerton (*The Lancet*, December 9, 1899) extended his researches not only to borax, but also to formaldehyde. He believes that, taking the case of milk first, it is extremely improbable that either of these preservatives would cause any injurious effect whatever to the average adult taking the ordinary amount of milk with his daily food. But because of certain possible injurious effects which might be produced, the use of such preserved milk for invalids and young children taking large quantities is to be condemned. And, so far as these injurious effects are concerned, it appears unlikely that the digestive processes would be materially affected—or, indeed, affected at all—by the boric acid, but that toxic effects in a more general way might be produced by this preservative. Formic aldehyde, on the other hand, would probably have absolutely no injurious general effect in the proportions used, but would tend to lessen somewhat the digestibility of the milk. The necessity for legislation on this subject lies in the fact that these preservatives are, in the quantities used, tasteless, and so cannot be detected by the consumer. (Therapeutic Gazette, March 15, 1900.)

GAS POISONING, THE TREATMENT OF.

If there is any morbid condition, apart from sheer loss of blood, in which transfusion would seem to be the ideal remedy, it is poisoning with illuminating gas, but transfusion seems to have had its day, having been supplanted by saline infusion. The employment of transfusion in gas poisoning is nothing new, but a recent investigation of the subject has been made by Dr. Percival Walter Darrah (*Proceedings of the Pathological Society of Philadelphia*, December, 1899). Dr. Darrah subjected a number of animals to gas poisoning, and endeavoured to revive them by various procedures. He observed little, if any, good result from the use of strychnine, alcohol, nitroglycerine, digitalis, oxygen by inhalation, electricity, artificial respiration, hydrogen peroxide, or saline infusions. On the other hand, he found that transfusion very speedily overcame the poisoning. Dr. Darrah adopts the theory that gas poisoning proves fatal in consequence of the formation of a compound of carbon monoxide and hæmoglobin so stable that the hæmoglobin is no longer able to take up oxygen. In the discussion, however, Dr. Hare stated that, in spite of this theory, the administration of oxygen to dogs poisoned with coal gas had produced extraordinary results in some experiments made by himself and Dr. Martin. The animals to which it had been administered had recovered. He said also that, so far as he knew, transfusion was futile, and saline infusion was the better procedure. The merits and the disadvantages of transfusion have been very thoroughly sifted, and it is our impression that the verdict is against the measure. Nevertheless, it would be interesting to have an explanation of its good results in Dr. Darrah's hands. (New York Medical Journal, January 20, 1900.)

GRAVES'S DISEASE, MASSAGE IN.

Zabludowsk, of Berlin, has been able by means of a system of massage to effect decided amelioration of the chief symptoms of this disease, especially when the goitre was of the soft pulsating variety. He begins by kneading the gland up and down and from side to side, using both hands as if squeezing a sponge. This is well borne if only part of the gland is treated at a time. If the goitre is very sensitive the massage is carried out by one hand, while the other is used to percuss the spine, this procedure having a good effect on the tachycardia. In addition Zabludowsk practises intermittent and vibratory percussion of certain nerves at the most accessible part of their course—the pneumogastric, chief trunk of the sympathetic, occipital, cervical, and the intercostal. He recommends, further, passive movements of the whole body, the muscles being weak as a result of poor nutrition. In from four to six weeks marked improvement is evident. (Medical News, December 23, 1899.)

INFLUENZA.

Dr. J. E. Gilcreest thus speaks of an epidemic :—Ear complications have been numerous, often very painful, causing sleepless nights and suppuration, but as a rule ending in a complete recovery in a comparatively short time. The lung complications have been of a varied and interesting type. The pneumonia, complicating la grippe, differs from the typical disease. It rarely sets in with a decided rigor, and the inflammatory symptoms, notably the pain in the side, are but little marked. The local processes are not characteristic. Local signs come on slowly. Crepitation can be heard over a considerable area, and usually disappears rapidly, not often reaching the process of hepatisation with definite dullness. The typical rusty sputum is wanting, but we have, instead, a free, frothy, bright, bloody secretion, which is often abundant and lasting till after the febrile symptoms have subsided. Pleurisy is often associated with la grippe pneumonia. Empyema, gangrene, and abscess of the lungs may arise as complications. The genito-urinary tract may be invaded, and even acute nephritis may appear as a complication. Cardiac complications sometimes arise and cause alarming symptoms. Gastro-intestinal complications are not so frequent, but very important, as they often bring about a very serious condition. (Journal of the American Medical Association, December 9, 1899.)

KRYOFINE.

Dr. Breidhenstein (*Therap. Monatshf.*, March, 1900) says that kryofine has produced very good symptomatic results in all forms of headache, migraine, hemicrania, uræmic headaches, meningitis, casque neurasthenia, syphilitic periostitis, &c.; furthermore, in all cases of neuralgia, neuritis, pleuritis, angina, and lancinating pains of tabes dorsalis. Eichhorst mentions a case of alcoholic polyneuritis in which antipyrin, phenacetin, salicylates, and exalgine had no effect. Kryofine in doses of 7½ grs. three times a day effected a rapid improvement. Eichhorst describes the action of kryofine in fresh cases of sciatica as almost wonderful. Finally, American physicians praise the hypnotic action of kryofine. (The Therapist, April 16, 1900.)

LEAD POISONING, ACUTE.

Dr. Zinn (*Berl. klin. Wchnschr.*, 1899, No. 50) records an interesting case of poisoning in a woman, aged 33 years, from a single dose of a powder consisting chiefly of lead oxide (PbO). He remarks that the points of interest in the case are the fact that severe symptoms, lasting about ten weeks, were produced by a single dose of an insoluble lead compound, and that the acute symptoms which commenced six hours after the poison was swallowed were followed by symptoms usually met with in chronic lead intoxication. The insolubility of PbO is no obstacle to its absorption, which takes place owing to an albuminate of lead being formed in the intestinal tract. That the lead was absorbed was shown by the blue line on the gums and its presence in the urine, while its well-known slow excretion was evidenced by lead being found in the urine twenty-two days after being taken. The woman had previously aborted eight times; but the fact of the abortion occurring at the time of the lead poisoning, and being accompanied by a recurrence of the symptoms, seems to point to the lead having been the direct cause. (From abstract in Edinburgh Medical Journal, February, 1900.)

MALARIA.—DESTRUCTION OF MOSQUITOES AND THEIR LARVÆ.

(1) Of the whole period of the cycle of development of mosquitoes, the stages in which they are most easily destroyed are those of the larvæ and of the aerial mosquitoes ; in the former stage they are the more easily killed the younger they are. (2) To kill the larvæ, among all the very numerous substances experimented with we have in decreasing order of culicidal action : (*a*) Among the mineral substances : sulphurous oxide, permanganate of potash with hydrochloric acid, common salt, potash, ammonia, carburet of lime, corrosive sublimate, chloride of lime ; and then the bisulphites, sulphate of iron and of copper, lime, bichromate of potash, sodium sulphite. (*b*) Among the organic substances : powders of the unexpanded flowers of chrysanthemums, tobacco, petroleum and oils, formalin, cresol, certain aniline colours (gallol, green malachite), coal tar. Taking into consideration, however, the necessary larvicidal doses, the practicability, and the price, all the mineral and some of the organic substances must be excluded, and there remain the vegetable powders, petroleum, and the aniline colours. (3) To kill the aerial mosquitoes we have odours, fumes, and gases. In the first place, among the odours we have the essential oil of turpentine, iodoform, menthol, nutmeg, camphor, garlic ; among the fumes that of tobacco, chrysanthemum powder, fresh leaves of eucalyptus, quassia wood, pyrethrum powder ; among the gases, sulphurous oxide. It is, however, to be noted that for these odours, fumes, or gases to exercise their culicidal action they must fill or saturate the whole ambient, otherwise they produce only apparent death, or at the most only a culicifugal action, which sometimes in houses may be useful in protecting man from being bitten by mosquitoes, and in preventing the latter infecting him, when they have sucked the blood of malarious persons. (4) The problem of the destruction of mosquitoes is experimentally soluble ; but practically it will only be so when economic interest desires it. In this latter sense it is remarkable that the old larvicidal use of petroleum has not become much diffused, even in those places where it is very cheap ; and it is probable that those substances which destroy other aquatic creatures injurious to agriculture will be preferred, and perhaps still more those which can be had by cultivating them on the spot. For example, by growing on a large scale the chrysanthemum plants (*chrysanthemum cinerariæfolium*, &c.) from which the culicidal powders are obtained, it is very probable that one will succeed in making the malarial place itself produce those substances which will free it of the mosquitoes that infest it. (5) The opportune season for killing the larvæ is the winter, when they are in least number in the waters. (From Drs. Celli and Casagrandi's paper in the Indian Lancet, February 1, 1900.)

MALARIA, THE GERM OF.

[The following is taken from Dr. Patrick Manson's paper :] The germ of malaria lives in the human blood. It can be readily seen there if suitable methods of examination be employed. I have a malarial patient in whose blood I find this germ. I remove a few drops of his blood by inserting the needle of a hypodermic syringe into one of his veins. I inject the blood so removed into one of my own veins. In the course of a week or ten days I am almost sure to develop malarial fever, and, if I am not too ill to use my microscope, I can find with the utmost certainty malaria germs by the million in my blood. There they will live and multiply for an indefinite period, unless I choose to kill them. This experiment I can perform successfully in any country and in any climate. As regards the malarial parasite, the natural hypodermic needle and syringe is the mosquito. This insect abstracts the parasite from one human being, injects it into other human beings, and so spreads malaria. Thus malaria is acquired under natural conditions only when and where the mosquito is to be found, that is to say, in the tropics and in the warm seasons of higher latitudes. The geographical distribution of malaria is therefore determined by the geographical distribution of the mosquito. Fortunately for mankind, it is only a limited number of species of mosquito that are effective transmitters of the malarial germ. It so happens that the malarial germ, after it has been ingested by the mosquito, has to leave the insect's stomach, pass into its tissues, undergo many evolutionary changes there, and find its way to the poison gland of the insect, and so to the human body when the mosquito proceeds to make its next meal on a human victim. It does not spew up the blood it has imbibed, and with it the parasites contained in this blood. The mosquito does not act exactly in the way my hypodermic syringe did. It interjects the transformed parasite in the droplet of venom, which it emits through its proboscis every time it bites a man. (The Physician and Surgeon, March 22, 1900.)

MEASLES, KOPLIK'S SIGN IN.

In 17 of the 96 cases occurring during the first part of the epidemic no accurate record had been made regarding Koplik's spots, but in the others the record had been accurate. In 76 per cent. of these Koplik's spots had been seen ; in 20 per cent. it had been seen before the rash had been developed ; in one of these, four days before the appearance of the rash. In these cases Koplik's spots were visible more than 24 hours before the appearance of the rash, yet the author did not think it had been the means of limiting the spread of the infection at all. This was apparently to be explained by the fact that measles was so very contagious during the prodromal catarrhal stage. Koplik's spots were, of course, very useful as an aid in diagnosticating measles. It was most important to examine the child minutely, and in good daylight, when searching for these spots. They were easily overlooked by an unpractised eye. (From Dr. Vanderpoel Adriance's remarks in Pediatrics, March 1, 1900.)

MUMPS, SENILE.

Whatever the reason, we know that parotitis is a rare disease in the two extremes of life. Bristowe, in his work on "Practice," mentions that it may occur in the aged. Aside from this author, I have not found any admitting this. Musgrove, of Austinville, Texas, reported a case of parotitis acuta duplex in an old lady aged 84 years, which ran a regular course up to the sixth day, when she suddenly fell into a stupor, with jactitation and stertorous respiration. She roused from the stupor sufficiently to swallow fluids, but died on the following day (Pepper, *American Text-book of Practice of Medicine*, 1892). I have been unable to find a record of any case of mumps in an old person other than the one reported above, but undoubtedly others have occurred. [The author then reports a case in a man aged 96.] The history of exposure, the malaise, anorexia, the chill, and vomiting of the prodromal stage; the discomfort and swelling at the end of two weeks after exposure, the dryness of the mucous membrane of the mouth, the tenacious mucus secreted, and inability to take acid drinks without discomfort. The clinical picture was as vivid, the swelling rapidly extending until the entire ear was surrounded; the inability to open the jaw except to a limited extent; the gradual disappearance and subsidence of the swelling after the fourth day. (From Dr. H. J. Walcott's paper in the American Journal of Medical Science, December, 1899.)

MYXŒDEMA, PARTIAL.

Hertoghe (*Gaz. Heb. de Med. et. Chir.*, December 17, 1899) points out that there are many degrees between entire thyroid integrity and complete loss of function of this gland, concerning which greater difficulties will arise. Three features should be borne in mind: (1) The study of the organic and functional characteristics of the parents of children manifestly hypothyroidic; (2) the analysis of true myxœdema in the feeblest traces of the hypothyroidic taint; (3) thyroid treatment of conditions suspected to be myxœdematous. True myxœdema is characterised by premature senescence of the whole organism; this is seen to a lesser degree in mild chronic hypothyroidism.

The dominant symptom, however, is an obstinate life-long constipation. Once the disease is well established the patients are somnolent and easily fatigued, and everything physical or mental seems to be beyond their energy. Their sleep is poor, they rise early, more wearied than when they lay down, and it is only toward evening that the symptoms abate. In children the most important sign is backwardness. The tendency here is toward cure, but in adult women it is not until the menopause is reached that improvement is noticed. The effects of thyroidine are no less marked than in true myxœdema. It should, however, be used with discretion. Alcoholic drinks, tobacco, and the excessive use of sugar must be strictly forbidden. Thyroid extract is more active and better tolerated after a preliminary treatment by means of the mild alkalis, sodium bi-carbonate, &c. Since diarrhœa may be caused by this drug, it is well to combine it with bismuth. (From abstract in Medical News, January 27, 1900.)

OILS, ESSENTIAL, USED IN INHALATION.

We found that for all practical purposes the majority of the oils —all, indeed, that were of therapeutic value—were best prepared for the purpose of inhalation by suspension in water with a medium of light carbonate of magnesia, for the most part in the proportion of half a grain to each drop of oil. Dr. Robert Lee would appear to advocate a more general employment of these essential oils for inhalation. With all respect, I am of opinion that the almost complete disuse into which they have fallen is more than justified ; since the inhalation of steam, however modified its relaxing effects may be by the addition of stimulating ingredients, should be restricted to those patients who, from the nature of their illness, are confined to the house ; nor is the risk of catching cold insured against by the precaution of Morell Mackenzie that "the patient should not go out of doors for half-an-hour after inhaling." For those pursuing their daily vocation oily or spirituous solution of menthol, creasote, guaiacol, iodoform preparations, &c., employed as sprays under air pressure, are now generally preferred. (From a note by Mr. Lennox Browne in the Medical Press and Circular, February 14, 1900.)

PLAGUE, THE.

MM. Calmette and Salimbeni (*Ann. de l'Inst. Pasteur*, Paris, December, 1899) discuss the outbreak of plague at Oporto, and the result of their work there. After their arrival on September 3, Yersin's serum was used in the hospital as a curative treatment. From September 3 to November 18, of 143 cases so treated the case mortality was 15·3 per cent., while of 72 cases in the city which were not treated with serum the case mortality was 63·7 per cent. For successful treatment with serum they consider that all cases should at once get an intravenous injection of 40 c.c., followed by two subcutaneous injections of 40 c.c. each in the first twenty-four hours, and 10, 20, or 40 c.c. subcutaneously daily until the fever entirely subsides. As a prophylactic the serum confers immunity almost immediately, but this lasts only about fifteen days. As preventive measures they recommend—(1) Killing of all rats and cleansing the sewers, so that they may not breed there; (2) disinfection of houses by sublimate or creoline, and flaming the walls when made of brick or stone; (3) "stoving" all objects that can be sterilised by moist heat. A sanitary cordon is useless. It was tried in Oporto, and failed to prevent plague spreading beyond the city, while it nearly produced a famine by preventing importation of food from the neighbouring villages. The improvement of the dwellings is most important. "Experience," they say, "has taught them that the plague is first propagated in the insanitary quarters deprived of aïr and sunlight, and where dirt and overcrowding reign." (From Dr. C. H. Stewart's periscope, Edinburgh Medical Journal, February, 1900.)

RECKLINGHAUSEN'S DISEASE.

Dr. Harry Campbell exhibited a case before the Clinical Society of London allied to Recklinghausen's disease. The patient was 15 years of age, and six years ago was admitted into a home with angular curvature. Two years ago the paraplegia had come on; the legs were now rigid with excessive myotatic irritability. The glands in the axillæ and supra-clavicular regions were enlarged. In certain regions, but especially in the right humeral region, the right posterior thorax, and to a less extent the left humeral region, were nodular masses apparently consisting of hypertrophied subcutaneous tissue somewhat tender to the touch. The skin was very loose where the nodular masses were most pronounced. The skin over the right forearm also was very loose, and here there was some subcutaneous hypertrophy. The skin was pigmented, the pigment appearing in patches varying from light yellow to dark brown, and in size from a pin-point to several square inches. It was most marked over the subcutaneous masses, the colour being deepest where the masses were thickest. Since admission the disease had steadily advanced. The right hand was congenitally deformed. The third and fourth fingers and their metacarpal bones were fairly normal, but the remaining phalanges and metacarpal bones were remarkably mobile, as though their several joints were devoid of ligaments. The patient was perfectly intelligent. The three symptoms of Recklinghausen's disease were thus presented—viz., pigmentation, multiple neuromata, and molluscum masses. (Lancet, May 5, 1900.)

RHEUMATISM AND CHOREA, INFECTIOUSNESS OF.

An important contribution to this most interesting subject has recently been made by Westphal, Wassermann, and Malkoff in the *Berliner klinische Wochenschrift*, No. 29, 1899. These observers report a case of acute articular rheumatism followed by chorea and complicated by endocarditis and nephritis, in which they succeeded in isolating from the blood, the brain, and the endocarditic vegetations a micrococcus susceptible of culture and capable of inducing polyarthritis when inoculated into lower animals. The patient was a girl, aged 19 years, who in the sequence of an attack of acute articular rheumatism developed chorea, with general movements, delirium, elevation of temperature, acceleration of pulse and collapse, followed by death. Post mortem examination disclosed the presence of fine, delicate endocarditic vegetations upon the mitral leaflets, as well as recent parenchymatous nephritis. From the blood, the brain, and the valve-leaflets was isolated a micro-organism, injection of which in small quantities into the blood vessels was followed in animals by the development of high fever and multiple arthritis, usually terminating fatally. The affected joints presented evidences of inflammation, and in the exudate was found the micro-organism already mentioned. Injection of this after culture again induced acute multiple arthritis. The micro-organism is a streptococcus, although in the tissues and in the blood it may appear as a diplococcus, and it may be the same as that found by other observers in the vegetations of endocarditis, but not subjected to culture and inoculation. Its growth requires a high degree of alkalinity of the culture medium than usual and a larger amount of peptone. (From a leading article in the Medical Record, November 18, 1899.)

RHEUMATISM IN CHILDREN.

Dr. J. E. Winters said that pain, swelling, and redness at the joints were exceedingly rare in the rheumatism of childhood. According to the records at the Demilt Dispensary, rheumatism occurred in 85 per cent. of the choreic cases, but at this dispensary the physicians recognised as a rheumatic manifestation in the child urticaria, an acute follicular amygdalitis, if repeated, torticollis, a little stiffness in the hamstring tendons, a persistent soreness and tenderness in the back, and all reported soreness of the muscles. This was because they had repeatedly seen cases of this nature produce subsequently acute rheumatism. It was just as common to see endocarditis after these rheumatic conditions as after an acute articular rheumatism—indeed, he was inclined to think it was noted more frequently. There was no way of avoiding these cardiac lesions except by absolute rest in bed, yet this was impossible in dispensary practice, and it was for this reason that so many of these cardiac cases were seen at the dispensary. (From report of the Society of the Alumni of Bellevue Hospital, in the New York Medical Journal, February 10, 1900.)

RHEUMATISM, THE DIET IN.

The conclusions which I may venture to put forward are that rheumatism is in part a dietetic disease, and that in the wide range of our cases the "feeding" plan needs to be represented as well as the "starving" plan. In rheumatic fever the diet cannot be too light. Nature refuses food, and the state of the tongue forbids it, but plenty of water is needed to clear the way for food. The source of the over-supply of lactic acid has been traced in our theories to the decomposition products of muscle, and therefore meat and beef-teas have been generally held detrimental, but the inability of some patients to manage milk diet has led me to question whether milk might not in them keep up the rheumatic tendency and become the recurring supply of acid. There is evidence that fermentation is set up in the stomach as well as on the tongue, and this is another source of dilatation of the stomach to which I would call special attention. I have arrived at the conclusion that administering a small quantity of salt (15 grains to the half-pint) or adding it to the milk is an important indication in all cases of exclusive milk diet, and usually renders its previously difficult digestion easy. This is also an indication in dyspeptic infants who are sometimes supposed to be intolerant of milk. I am glad to find in Dr. Burney Yeo's "Manual of Medical Treatment" that he has recommended a salted alkaline milk drink in acute rheumatism. Clinical observation has, however, suggested to me another line of diet, the further trial of which I may safely invite. A temporary vegetarian diet seems to be as much indicated by the rheumatic state as the avoidance of animal food, and in refractory cases it is possible that the administration of soups made of a variety of vegetables such as I am now prescribing at St. George's Hospital, supply the food as well as in part the medicine required. Whilst meat renders urine acid, vegetables render it alkaline, and this is the result at which we aim. (From Dr. W. Ewart's paper in The Lancet, March 17, 1900).

SALICYLATE OF SODA AND SORE THROAT.

M. Meyer, at the Académie de Médecine, drew attention to the surprisingly good results obtained in pseudo-diphtheritic tonsillitis and in the common form of sore throat from gargles of solution of salicylate of soda, one drachm to 6 ozs. of vehicle, generally water. He treated in this way 300 cases of tonsillitis, pharyngitis, laryngitis, and considered salicylate of soda used as a gargle as almost a specific for all inflammatory affections of the throat. That opinion was corroborated by Dr. Mignon, the chief of the Medical Service of one of the preparatory schools of infantry. According to him, it was not necessary to prescribe large doses of the salicylate of soda ; from one to two drachms was a daily dose, which he never exceeded. The patient put a tablespoonful of the solution into half a glass of hot water, and gargled his throat every hour. The painful sensation disappeared with astonishing rapidity, and he rarely witnessed the inflammation resist more than two or three days when the affection was treated at the outset. Having the care of over 400 young men, he had treated times without number sore throats by the above simple method, and always with success. Patients subject to repetitions of tonsillitis had only to use the gargle at the first symptoms of the malady to arrest it within forty-eight hours. (Medical Press and Circular, April 11, 1900.)

SALT SOLUTION IN ACUTE DISEASES, THE INFUSION OF.

Lenhartz (*Annales de Médecine et Chirurgie Infantiles*, Sept. 1, 1899, p. 674) reports his observations on the use of subcutaneous injections of a physiological saline solution in the treatment of numerous acute diseases in childhood. The immediate effect of such injections is to raise blood pressure, and consequently to increase diuresis. Not only is the force of the heart improved, but, to use an expression of Sahli, there results a lavage of the whole organism, which is thus relieved of toxins. This treatment has given excellent results in typhoid fever, pneumonia, grave dysentery, peritonitis, ileus, cholera infantum, and summer diarrhœa. In certain cases all alimentation by the mouth or by the rectum was suspended, and for several days the patients were sustained entirely by the injections, which were given in quantities of a litre for adults or from 400 to 600 grammes for children. In typhoid fever, notably, it was observed that the injection exercised not only a tonic action, but also was calmative, quieting both physical and mental agitation. A case of dysentery which had eighty to one hundred stools a day, losing from 1,300 to 7,500 c.c. of sanguinolent mucus, was cured by systematic injections of saline solution in dose of two litres a day. These results were due to the rapid elimination of toxins. The treatment is especially recommended in cases of grave peritonitis in which it is impossible to operate at once. Among the unpleasant sequelæ of this procedure are subcutaneous abscesses, which are observed rarely in hospital, and slightly more in private practice, and acute dilatation of the right heart in nurslings. In three autopsies of infants Lenhartz observed slight œdema of the glottis, of which there had been no symptoms during life. The number of blood-corpuscles and the proportion of hæmoglobin fail to show any notable increase in the volume of the blood. The excretion of the sodium chloride is quite rapid, and the relatively high gravity of the urine at first shows that a large quantity of waste products is eliminated. The density of the urine later is reduced. (American Journal of Medical Science, April, 1900.)

SCARLATINA.

Dr. W. J. Class has examined the exudation from the throat in more than 300 cases of scarlet fever. His reasons, briefly stated, for believing his "diplococcus scarlatinæ" to be the causative factor of scarlatina are as follows:—(1) Because the germ is invariably present in the throat secretions, blood and scales of a patient having scarlatina, and because it is a separate and distinct organism not heretofore described. (2) Because it has been proven to be a pathogenic micro-organism, killing mice, when injected in minute quantities, in a space of time varying from less than one to twenty-four hours, according to its virulency. (3) Because it produces, in swine, a disease whose macroscopic lesions closely resemble those seen in scarlet fever as it occurs in the human subject. (4) Because the presence of blood from a patient who has just recovered from an attack of scarlet fever inhibits its growth. (5) Because the subcutaneous injection of a virulent culture into guinea-pigs will, under certain conditions, produce a nephritis. (6) Because the experiment quoted apparently shows that the blood serum of a person who has passed through scarlet fever protects an animal against the invasion of the germ. (Journal of the American Medical Association, February 24, 1900.)

SIDONAL.

Hr. Blumenthal gives a short note on sidonal. Jaffé and Darmstaedter had made a preparation by combining chinic acid and piperazine, and had forwarded a sample to the Clinic in order to have its actions ascertained. The testing of it had shown that the preparation really had a great effect in checking the formation of uric acid. If five to eight grammes of sidonal were given daily the excretion of uric acid was diminished from 40 to 50 per cent., the quantity of hippuric acid being increased. As there was no increase in the after-periods, it was evident that the action was not simply to retain the uric acid in the system. As hippuric acid was very soluble in water it had no injurious influence. From the investigation it appeared likely that sidonal would be a useful remedy in gout.—Hr. v. Leyden believed it would be of importance in the uric acid diathesis. He had used sidonal in private as well as hospital practice, and he could say that it was well borne, or had no disturbing influence, and was taken readily as the attack was favourably influenced by it. It was not yet known whether an attack could be cut short by it.—Hr. Jacques Meyer had employed sidonal in five cases of typical gout, and in five cases of undoubted renal concretions. The daily dose was five grammes, one-half in the morning and the other in the evening. The average duration of the trial was seven days. No unpleasant effects were observed. As regarded therapeutical action, the attack ran a quicker course than usual—the pain and swelling passed off comparatively quick, and power of movement returned more quickly than usual. In the cases of renal concretion the subjective symptoms were either diminished very considerably or they disappeared altogether. (Medical Press and Circular, March 28, 1900.)

SMALLPOX, SALOL IN.

The following are Drs. Biernacki and Napier Jones's conclusions :—It appears from a series of cases that salol may practically avert general pustulation, and even have a partial abortive effect when given after maturation has commenced. The influence of the treatment on maturation is, however, not constant in degree, and in one case was almost *nil*. Short of an abortive effect, it almost invariably hinders pustulation, so that the pustules form tardily, the process being imperfect in a much higher proportion than usual. The cutaneous inflammation is slight, and irritation commonly absent even in confluent cases. There is generally an entire absence of unpleasant odour. Scarring is inconsiderable and often absent, the scabs scaling off with great rapidity. The most remarkable effect of the treatment is its effect on the secondary fever, which, if not absent altogether, is as a rule of little importance. These results appear to us to resemble, but exceed, those obtained by the red light treatment. On the whole, the statement is justified that salol affords a means of treating small-pox superior to the methods in vogue. (British Medical Journal, June 2, 1900.)

STRAMONIUM POISONING.

Mr. Duncan G. Newton relates two cases, both of which recovered. The drug was self administered in infusion for asthma. The symptoms of poisoning by stramonium may be divided into two main stages, first that of delirium, second that of coma. The symptoms develop rapidly. The first thing that troubles the patient is giddiness; they begin to stagger as if intoxicated, complain of numbness and weakness in their legs, dryness of the mouth and throat, difficulty in swallowing, followed by indistinctness in their speech. The pupils become dilated, and the pulse is quick and small. There is one other symptom which was very evident in the first case, namely, strangury. This condition I have not seen mentioned in any of the reported cases. The patient has by this time become somewhat delirious, and gradually passes into the stage of coma, especially if the stomach has not been washed out. *Treatment.*—I am convinced that in these cases the stomach pump or syphon is the most efficient means of getting rid of the deleterious matter from the stomach, and I daresay if I had had it with me, and used it at the first, I might have been able to ward off the stage of coma in the first case. The stomach may be washed out with some diffusible stimulant, such as ammonia, which was resorted to in both the above cases. Camphor was used in some of the reported cases. Emetics and counter-irritants are recommended, and some advise morphia hypodermically, owing to the symptoms resembling those of belladonna poisoning. (Quarterly Medical Journal, May, 1900.)

SUPRARENAL THERAPY.

The following are Dr. W. H. Bates's conclusions:—(1) The aqueous extract of the suprarenal capsule when used locally is the most powerful astringent and hemostatic known. (2) By reason of its action on the heart, congestion of the mucous membrane and other tissues of the eye are relieved to a less degree by the internal administration. (3) Congestion of other organs in addition to the eye are relieved by the local and internal use of the extract. (4) The extract is useful in all forms of inflammation and in inflammations in all parts of the body. (5) The suprarenal is the strongest known stimulant of the heart. (Medical News, March 24, 1900.)

SYPHILIS, PREVENTION OF HEREDITARY.

As to the question regarding the transmission of syphilis to the child, I believe that the general dissemination of knowledge on this point is all that is required. A man who has had syphilis ought not to marry until two years after the date of his contracting the disease. If this rule were followed it would practically put an end to inherited syphilis. I will not deny that there may be exceptional cases in which syphilis may be transmitted after a longer period than this; but as the result of very careful personal examination through a long series of years I feel justified in stating my general conviction that two years is amply sufficient for all practical purposes. Amongst the more educated classes in England this is now well known and understood, and is almost invariably most conscientiously regarded. The cases of hereditary syphilis which occur in connection with the transmission of syphilis are almost always amongst the poor and uneducated. There seems to be great exaggeration as regards its prevalence in England. During the last ten or thirteen years in England the deaths from inherited syphilis have been reduced to the proportion of from seventeen to twelve, *i.e.*, a reduction of more than a quarter, or, to be more exact, nearly a third. (From Mr. Jonathan Hutchinson's paper in the Physician and Surgeon, January, 1900.)

THERMOMETER, CLINICAL, AS A GERM CARRIER.

Conklin, in a suggestive paper (*Buffalo Medical Journal*, February, 1900, No. 7, p. 479), draws attention to the facility with which pathogenic organisms may be transported by the clinical thermometer, and urges that more care should be employed in cleaning and sterilising it. The graduation marks form trenches in which armies of germs may take shelter, and there are numberless irregularities, scratches, and pits on the bulb and other parts of the thermometer which are very evident on microscopical examination, and which also form shelters for the germs. A graduation mark, for example, on an ordinary clinical thermometer is of sufficient size to furnish room for the lodgment of 280,000 tubercle bacilli! Thermometers washed in the ordinary way always gave a growth when rubbed on culture media, and in one instance in which the instrument had been used in a case of diphtheria, diphtheria bacilli were cultivated. Conklin recommends that the thermometer should be carried in a rubber case containing 1 to 250 or 1 to 500 corrosive sublimate solution. Another suggestion made was that the practitioner should carry several thermometers, so that a different instrument could be used for each case, the thermometers being cleaned and sterilised daily. (Abstract in Treatment, March, 1900.)

TRIONAL POISONING, CHRONIC.

Vogel publishes a case of a woman, aged 28, who, on account of sleeplessness, had taken, between January and June, 1,900 grs. of trional (*Berl. klin. Wchnschr.*, 1899). She suffered very severely from cardiac feebleness, so much so as to endanger her life, and excreted in the urine a colouring substance closely allied to hæmatoporphyrin, but not identical with it. Nephritis, severe abdominal colic, and marked nervous prostration were the other chief symptoms. The treatment consisted in giving alkalies freely and in general strengthening measures ; but it was four months before the patient had recovered her strength. Gastro-intestinal irritation, feebleness, and heart weakness have been observed to follow the administration of trional ; and seven other cases of chronic poisoning have been already recorded. It is, therefore, necessary to use the same precautions as with sulphonal, and to avoid giving either continuously. (Edinburgh Medical Journal, February, 1900.)

TUBERCULOSIS, LATENT FEVER IN CHRONIC.

Mircoli (*Deutsches Archiv für klinische Medecin*, Band lxiii., p. 162) gives a thoughtful and suggestive article on this subject. Formerly fever was considered an essential symptom in tuberculosis, notwithstanding the fact that a tuberculosis infection might be seen to exist in organs such as the liver, joints, or peritoneum for years without rise of temperature. Maragliano emphasised the importance of fever in the late stage of tuberculosis and its relation to secondary infection by the common pyogenic bacteria, and Mircoli, in 1896, observed cases of undoubted pulmonary tuberculosis without fever. He noticed that, especially in many cases of so-called predisposition, tuberculosis was actually present without fever. Mircoli studied the temperatures in the rectum and axilla, and found a greater difference than the half degree centigrade usually considered normal. It often amounted to 1 deg. and sometimes as much as 2 deg. C. This difference is not constant at different times of the day in the same patient, but is usually less in the morning and greater in the afternoon. Mircoli found an inverted type of temperature very rarely in tuberculosis, and does not think that there is any particular type for the latent fever. The sweating of tuberculosis has sometimes been considered a consequence of rise of temperature. Careful observation, however, proves that this is not so, and Maragliano was able to find an ethereal extract of tuberculosis toxin which produced sweating without affecting the temperature. Chetrien, who studied the subjective fever of tuberculous patients, found that in some of them there was a subjective feeling of fever, although the temperature in the axilla was not elevated. To sum up, the author holds that the thermal level in tuberculosis is somewhat lower than in health—*i.e.*, from 2 deg. to 5 deg. C. ;

that the difference between the internal and external temperatures is greater, on the average 1 deg. C.; that the sensibility to internal and external thermogenic factors is increased; that there are thermopsychic phenomena which indicate the transition from the latent to the manifest form of tuberculosis. (From abstract in the American Journal of Medical Science, February, 1900.)

TUBERCULOSIS, PREVENTION OF.

[Prof. J. G. Adami recommends a drastic measure which, if not applied to the whole of the Dominion of Canada, might be tried in well-defined areas.] If it be correct—and our observations in Montreal entirely confirm those of Prof. Theobald Smith—if cattle show but a transient and slight, and not an ulcerous and infective, disturbance when inoculated with what are truly enormous numbers of tubercle bacilli obtained from man; if cattle thus are relatively insusceptible to the human disease, then the disease may be either eradicated or kept absolutely in check, even although tuberculosis continue to prevail among the inhabitants of the districts mentioned, without adequate endeavours to arrest its spread among them. A corps of inspectors might be empowered to make a complete and perfect visitation, to kill off and compensate for all animals showing clinical evidence of the disease; to isolate or buy at full value, and place on Government reserves, all animals reacting to tuberculin, according to the condition of their owners and their capacity or incapacity to undertake this work for themselves; to disinfect all byres in which infected animals have been discovered; to prevent temporarily the entrance of animals into the areas visited after undergoing tuberculin test, and thereby to demonstrate whether these areas can be rendered absolutely exempt from bovine tuberculosis. (Canadian Journal of Medicine and Surgery, December, 1899.)

TYPHOID BACILLUS, THE GROWTH OF.

Professor E. J. McWeeney read a note before the Royal Academy of Medicine in Ireland on the Effect of Certain Varieties of the Nutrient Medium on the Growth of the Typhoid Bacillus, in which he stated that experimental cultures made by him showed that (1) the growth improved with increasing addition of decinormal sodium hydrate to the unneutralised gelatine up to the beginning of alkalinity (indicator phenolphthalein); (2) the addition of salt, in quantities varying from 0.1 to 1 per cent., to the fully-neutralised gelatine (same indicator) made no difference in the amount of growth; (3) the omission of both salt and peptone exercised no appreciably unfavourable influence on the growth in gelatine made with meat decoction; (4) addition of quantities of phenol to gelatine in the proportion of 0.05 to 0.5 per cent. exercised an inhibitory influence on all growths when the addition exceeded 0.07 per cent.; between 0.05 and 0.07 the effect was to check the anaerobic growth; and (5) Parietti's solution added to ordinary bouillon suppressed the growth of the typhoid bacillus when the bacillus coli was also present. The addition of nine drops (0.3 cubic centimetre) to 10 cubic centimetres of bouillon, to which was subsequently added a few drops of a mixture containing both the typhoid bacillus and the bacillus coli (*e.g.*, bile from a patient dead from typhoid fever), caused such retardation of the growths produced by plating out the tube on gelatine as to make them closely resemble true typhoid bacillus colonies. Tests, however, proved that nothing but bacillus coli grew in the Parietti's tube, although ordinary agar plates from the same material yielded an abundance of typhoid bacillus colonies. It was on the suppression of the typhoid bacillus by the Parietti test that the speaker desired to lay special stress. (The Lancet, March 31, 1900.)

TYPHOID FEVER AND COCKLES.

An outbreak of typhoid fever which has recently occurred in Shoeburyness is attributed by Dr. Thresh, the County Medical Officer of Health for Essex, and Dr. Walters, the Urban Medical Officer, to the eating of cockles in an uncooked or imperfectly cooked condition. The sewage of the town is discharged in an untreated condition into the sea from three distinct outfalls, the longest terminating 300 yards from the shore. There is no doubt that some of the sewage returns with the incoming tide upon the beach, and so pollutes the foreshore. The cockles are found lying partly imbedded in the mud, and samples of these, which were collected for bacteriological examination, were found to contain the bacillus coli and bacillus enteritidis sporogenes, both in the mud adhering to the shell and in the liquid contained within the shells. Those who have suffered from typhoid fever are nearly all persons who have only recently come to reside in the district. The consumption of shell-fish from the beach has so often been the reputed cause of typhoid fever that the older inhabitants never touch them. The water supply, milk, and the sanitary conditions generally of the infected houses were most satisfactory.—The Journal of State Medicine, December, 1899. (Dublin Journal of Medical Science, January, 1900.)

TYPHOID FEVER, DIET IN.

[The number of Dr. Manges' cases is only eight.] The treatment was that ordinarily pursued at Mount Sinai Hospital, *i.e.*, a minimum amount of medication, usually including only dilute hydrochloric acid and stimulants, unless some special indications should arise. Plunges at 90° to 80° F. or cold packs were the routines for high temperatures. The majority of the cases were of the severe type, as their subsequent course proved. The diet allowed was the soft diet of the hospital. This included soft boiled eggs, milk, milk toast, custard, strained jellies, chicken, rice, farina, strained oatmeal and other cereals, softened soda crackers, baked potatoes. One and all the patients relished their food. That they digested the food was proven by the constant supervision of the stools ; it is also to be noted that diarrhœa was not present in any larger proportion than is usual in this disease. In several of the cases there was constipation ; two of the patients had two or three soft stools daily. The tongues were always moist, whether they were coated or not. In other words, the food was tolerated in every way, and that it was absorbed was manifest from the fact that, as a rule, these patients emaciated less rapidly than the others who were under liquid food treatment at the same time. The better nutrition of these patients was also demonstrated by blood counts which were made for other purposes on two of them, both of which ran severe courses ; one of them was complicated by pharyngeal diphtheria. On the twelfth day there were 4,280,000 erythrocytes and 12,000 leucocytes. In the other case, in the fifth week, the examination showed 5,087,000 erythrocytes, although the temperature was still elevated. There were no deaths, although according to the high average mortality of the hospital for this year we should have expected at least one death. There were no hemorrhages, since we can eliminate the few drachms of blood which were once reported in one case. Perforation and indeed all peritoneal symptoms were absent. Likewise there were no thromboses. Relapses were reported in two cases. Of these, one occurred three weeks after the patient's discharge from the hospital, and can therefore hardly be attributed to the increased diet. The other relapse was that of a robust domestic, who had a mild primary attack, but who subsequently had two severe relapses. It is to be observed that in her first relapse she was fed on milk alone. This apparently did not prevent her having the second relapse. (From Dr. Morris Manges' paper in the Medical Record, January 6, 1900.)

TYPHOID FEVER, GANGRENOUS DERMATITIS IN.

Dr. Franklin Stahl reports 10 such cases, two of which died. He says that his experience in the distribution of the lesions of the disease is in marked contrast with that of those who have reported cases. The exemption of the extremities, with one exception, is worthy of especial consideration. In the cases reported the trunk was the most frequent seat of the disease, and the face, the arms, the thighs, and, in two instances that terminated in death, the scrotum were involved. In only one case did the disease attack the foot, and while the patient survived, the foot was lost. The treatment of these necrotic areas consisted in cleansing them and applying acetanilid and bovinine. Internally, they were given whisky, strychnine, and a preparation of iron. (American Journal of Medical Science, March, 1900.)

TYPHOID FEVER, INFECTIVITY OF.

If the patient has been treated at home, how soon, for instance, may others use with safety the water-closet down which the patient's excreta are discharged? If every possible precaution is taken, they might theoretically use the same water-closet throughout the patient's illness. But in practice this has been found to be not safe, and the careful doctor will decline to treat a patient unless for the disposal of his excreta the monopoly of a water-closet in a town house, or other special arrangement where there are no water-closets, is secured. How soon, then, may these precautions be withdrawn? The writer has known the case of an enteric fever patient who, after a month's convalescence, was taken to a seaside boarding-house kept by a friend, and while there she used a water-closet used by this friend and no other. Within three weeks of her arrival this friend was taken ill with enteric fever. No other cases occurred in the house, the drainage and all arrangements in connection with it being perfect. Although such evidence is not conclusive, it suggests the protracted infectivity of the urine of the first patient, and the conveyance of the infection from this source to the second patient. Numerous cases might be cited in which a patient discharged when perfectly well from a hospital in which he has been treated for a protracted attack of enteric fever, has, on reaching his home in the country, in which there are defective privy arrangements, set on foot a serious epidemic of enteric fever. The significance of such cases may be emphasised by the following extreme instance. M. W. Richardson mentions a case of a man who five years previously had an attack of enteric fever, since when he had suffered from trouble with his urine. He was admitted to the Johns Hopkins Hospital at the end of that time with cystitis, and from his urine on examination a pure culture of bacillus typhosus was obtained. It has been observed during attacks of enteric fever that the urine may contain typhoid bacilli in such numbers as to render it turbid when freshly passed ; and, although the case last quoted is an extreme one, there appears to be little doubt that these bacilli may continue to be excreted by the urine some weeks, or even months, after an attack of enteric fever. It may ere long be considered desirable to adopt a similar examination of the urine of convalescent enteric patients before considering them free from infection. The desirability of such an examination is particularly indicated where patients are likely to go to houses in which the closets and other sanitary arrangements are in an unsatisfactory condition. (From the Public Health article in the Practitioner, December, 1899.)

TYPHOID FEVER OF CHILDREN, COLD BATHS IN.

In a laborious and extended article, with copious references, M. F. Glénard (*Revue Mens. des Mal. de l'Enfance*, January, 1900) discusses this subject. The statistics are numerous, are collected from many sources, and are uniformly favourable. The author prefers generally a cold bath (about 72 deg. F.) for ten minutes, adding two or three cold affusions. Massage and friction are to be made, and in case of a suspected heart a little Bordeaux or Spanish wine is given after the bath. He draws the following conclusions :—Typhoid fever in children is a grave disease. Treated with medicines only, it has a mortality of 15 per cent. With systematic treatment by cold baths, the mortality falls (average of reports of different observers) to 2½ per cent. With mixed treatment (baths and medicine combined) the mortality is 11 per cent. The last percentage is only an average, some epidemics showing double or treble this mortality. The mortality of the combined treatment is as great as of the medicinal, if the child be under five years or the epidemic severe. With the combined treatment the statistics show that the disease retains its uncertain prognosis, its liability to complications, its long course and convalescence, its undesirable results. In the bath treatment the average and the extremes of the statistical mortality are close together and all small. The prognosis from the very first days is good ; convalescence is short. No collapse has been seen during the systematic and proper use of cold baths in children, even in pneumonia, where the heart is most liable to suffer. It is not too cold baths, nor too long extended baths (within the reasonable limits set by an experienced physician), that cause collapse ; more often baths that are too warm, or cold baths given at a too advanced stage without the medicinal corrective, cause collapse. The failure of success in balneo-therapeutics will be found due to the failure in making the baths systematic. In infants, as in adults, the systematic cold bath fulfils all the promises first made for it. With such a bath typhoid in children is a benign disease, and it is a benign disease only under this condition.—So far the author. We are not candidly able to say that the statistics quoted, and the cases cited and described, are of a fully satisfactory character—at least not of a character to justify such sweeping conclusions ; the paper is, however, of great interest, and in the main convincing. (From a leading article in Pediatrics, February 15, 1900.)

TYPHOID FEVER IN CHILDREN, DIAGNOSIS OF.

Altogether a rather slow pulse when not in proportion to the height of the temperature, the condition of the tongue, the swelling of the spleen, and the presence of roseola render the diagnosis secure, even without the Diazo and Widal tests. In other instances, however, we arrive at a result by exclusion only. There is hardly a single clinical symptom which alone proves the presence of typhoid fever ; the simultaneous presence of many is a more perfect guide. The Diazo test is nearly conclusive when tuberculosis and pneumonia may be excluded ; it may be expected to be positive in 90 per cent. of all the cases between the end of the first and the middle of the third week. The greatest difficulty is met with in those infants that yield few or no local symptoms except those of a septic infection only. Lymph nodes are sometimes found tumefied ; their swelling in the inguinal region, however, from other causes is so frequent that when found alone it should not count. The presence of herpes should generally be taken as proof of the absence of typhoid fever. The presence of the bacillus in the discharges would be the best symptom if we commanded a readier practical method for its discovery, provided there be other symptoms which make the case suspicious of being typhoid fever. (From Dr. Jacobi's paper in Pediatrics, December 15, 1899.)

TYPHOID FEVER, PREVENTION OF.

Dr. William E. Quine, speaking of the treatment of typhoid fever in private practice, says that typhoid discharges, including urine, should stand several hours in intimate admixture with the disinfectant before being finally disposed of. A covered, glazed earthenware jar should be used for this purpose, and never an old wooden slop-bucket ; and it goes without saying that the fæcal matter should be treated in this manner for at least two weeks after the occurrence of defervescence. The mattress should be thoroughly protected by a rubber sheet, and this should be destroyed when the need of it ceases. Any fæcal stain on the linen should receive immediate attention. The soiled spot should be thoroughly treated for six or eight hours on both sides of the fabric with a 1/500 solution of corrosive sublimate, and after a loose rinsing in water the entire article should be boiled half an hour in a covered boiler. Then it is fit for the laundry. After each evacuation the person of the patient should be washed with water, and subsequently with a 1/2000 solution of corrosive sublimate. The attendants are to be admonished frequently and forcibly as to the need of scrupulous care in respect to the cleansing of their own hands after waiting on the patient. Soiled articles that are not susceptible of thorough disinfection are to be destroyed. The sick-room is to be stripped of carpet, draperies, and all unnecessary furniture; and when the case is ended the room should be fumigated with formalin and then thoroughly aired before being turned over to family use. (Journal of the American Medical Association, February 17, 1900.)

TYPHOID FEVER, PREVENTIVE INOCULATION AGAINST.

(By Dr. R. W. Marsden, who has used typhoid vaccine, kindly supplied by Professor A. E. Wright.) From my own experience of an institution where considerable numbers of typhoid patients are treated, I can affirm that the occurrence of typhoid fever amongst the staff is not infrequent and a very real case of anxiety, despite the most explicit instructions for the prevention of infection. In September last it seemed to me desirable to offer facilities to the staff for the injection of typhoid vaccine. I am well aware that the time which has elapsed since the adoption of the prophylactic measure is too short to draw any conclusive inference, yet the results so far observed are, I think, sufficiently marked to warrant this report, and even embolden one to hope that, at any rate for a limited period, either an immunity against typhoid can be thus produced, or at least one may give "an increased power of resisting infection by living typhoid bacilli." As the nurses are usually only employed in the typhoid fever ward for a period of three months, the inoculations have only been repeated on two occasions. During the six months concerned 22 nurses have been engaged, of whom 14 received the typhoid vaccine. Of the remaining eight, four had previously been under my care for typhoid fever contracted during the performance of their duties, whilst the other four did not wish to submit to inoculation. In general the clinical symptoms have agreed with those detailed by Professor Wright, but I should be inclined to add that headache has been consistently present in all; in several it was accompanied by general pains or aching, whilst one nurse complained of "cramps in the legs and feet." Frequently also there was nausea, and on two occasions vomiting. At the end of thirty-six hours the constitutional symptoms had disappeared, but local tenderness sometimes persisted for two or three days longer. By inoculating, therefore, in the evening the nurses were allowed to have one day in bed, and returned to duty on the following day. Compared with other seasons, the season 1899-1900 was the only one during which no undoubted case of typhoid had been contracted by the staff, even though the epidemic during the last autumn and winter had been exceptionally light. (British Medical Journal, April 28, 1900.)

TYPHOID FEVER, PROTECTIVE INOCULATION AGAINST.

In the *British Medical Journal* of January 20, 1900, will be found some remarks by Dr. Wright and Dr. Leishman on the results which have been obtained by the antityphoid inoculations. The comparison of the disease statistics among the inoculated and the uninoculated is remarkable enough, but much more so when one takes into account the unfavourable conditions under which the inoculations were performed. The work was undertaken by the authors when serving with the Indian Plague Commission, so that it could only be irregularly prosecuted while *en route* from place to place. Moreover, as sufficient vaccine material could not be taken out from England, that employed had to be prepared and standardised under the most unfavourable conditions. Even with these statistics, which beyond question would be vastly improved under favourable conditions, we find a reduction of cases from 2.5 to 0.9 per cent., and a diminution of mortality from 0.35 to 0.2 per cent. It appears that the annual average of cases of typhoid fever in the British army in India is 1,800, and the number of deaths 460, so that applying the statistics to these numbers there would be an annual saving of over 1,000 cases of enteric fever, and of nearly 200 lives. In most of the cases the inoculated men were young soldiers who had recently arrived in the country, and therefore were in a condition of maximum susceptibility, while the uninoculated were the more seasoned older soldiers of less susceptibility. In some cases, too, the inoculation took place in the presence of an epidemic, and, as could be shown to demonstration now and again, in patients during the incubation stages of the disease. The difficulty in getting a wider application of antityphoid inoculation lies in the patients themselves. (From abstract in Therapeutic Gazette, March 15, 1900.)

TYPHOID FEVER, WIDAL'S REACTION IN.

(From Dr. Arthur R. Guerard's paper.) From a review of the published reports on the subject, and from an experience in the health department laboratories with the practical application of the Widal reaction extending over three years and including the examination of fifty specimens or more a week, it may be said that this test, when performed with due regard to the avoidance of all possible sources of error, is as reliable a method of diagnosis as any other bacteriological test at present in use. It is simple and easy of performance by any one versed in bacteriological technique. The serum reaction is never present in other diseases, if correctly tested and in the proper dilution, as is so often the case with the Diazo reaction of Ehrlich. It is better adapted for routine employment than are any of the methods now in use for isolating the bacillus from fæces or urine. The reaction does not appear, as a rule, during the first few days of the disease ; but it is usually manifest before the rose-coloured eruption appears, though occasionally it is very late in appearance, and in rare cases may be entirely absent. A negative result cannot be considered as having much significance, but a positive reaction when present—previous typhoid or an earlier reaction being excluded—is almost as strong evidence of the existence of the specific infection as the actual demonstration of the typhoid bacilli. Thus, while the Widal reaction has undoubted limitations, it is, nevertheless, of inestimable value as an aid to the clinical diagnosis of irregular or mild cases of typhoid fever. (New York Medical Journal, April 21, 1900.)

TYPHOID FEVER, WIDAL'S TEST IN.

As yet, so far as I know, no case without a history of former typhoid fever has been recorded in which with a higher dilution than 1.50 the reaction has been positive, and yet the typhoid bacillus has been proved absent by a bacteriological examination. If, then, we sum up the considerations which have been brought forward, it would seem that the following conclusion is justified. For all practical purposes a 1.20 dilution with a short time-limit (one hour) gives admirable results. A positive reaction so obtained has a diagnostic value about equal to that of the eruption—that is to say, that in very rare cases both may be observed in cases which are not typhoid fever. If, however, in any given case we require from the test absolute infallibility then we must use in addition greater dilutions, such as 1.100 (or even higher), employing of course the same time-limit as before—namely, one hour. But to use such dilutions as a matter of routine would be an error, since we should thereby wilfully diminish the value of the test by excluding many cases of typhoid fever (nearly 20 per cent.) which never reach even the 1.100 limit during any part of their course. (From Dr. Horton-Smith's Gulstonian Lectures, Lancet, April 14, 1900.)

VANADIUM.

This agent appears to act much like arsenic or iron in the transference of oxygen. Vanadate of sodium has been administered in doses of 1 to 5 milligrammes in twenty-four hours on an empty stomach for two or three days at a time. It causes a rapid improvement in appetite, strength, and weight. Its administration is followed by some increase in the liquid and solid constituents of the urine, with a diminution of sugar in diabetes. It is likely to prove a valuable tonic and hæmatinic in cachectic states. (From Dr. Wynter's periscope in Treatment, January 11, 1900.)

WHOOPING-COUGH, ANTITUSSIN IN.

In the *Berliner klin. Woch.* (December 11, 1899) Max Heim gives the result of his experience in 16 cases of whooping-cough treated with antitussin. This is an organic compound of fluorin mixed with vaseline and wool-fat (di-fluor-di-phenyl, 5; vaseline, 10; adep. lanæ hydros, 85 parts). He follows the presentation of his cases with several general considerations, viz. :—(1) Antitussin makes the attacks of pertussis much milder, changing the character of the disease to a purely catarrhal one; (2) the drug loosens the phlegm and mucus markedly, allowing the patient to relieve himself with ease; (3) the number of attacks diminishes as early as the second day of treatment to one-half, and daily thereafter until entirely gone. The period of convulsions, variously estimated at from five to ten weeks, is reduced to from a few days to at most two weeks; (4) as antitussin is comparatively non-poisonous in the amount used, no untoward results of its administration are witnessed. In all throat and laryngeal affections the preparations of fluorin, especially antitussin, are highly recommended. They relieve the catarrhal conditions and the many annoying reflexes (sneezing, coughing, &c.), as well, in a remarkably short time. Antitussin, therefore, is a drug which seems to be the one much sought for by the medical profession for many a year. (Medical News, January 6, 1900.)

Affections of the Nervous System.

BRAIN TUMOUR AND OPTIC NEURITIS.

Oppenheim estimates that optic neuritis is present in 82 per cent. of the cases of brain tumour. Gowers is of the opinion that it is present in four-fifths of the cases. Knapp found 11 cases of neuritis and two of atrophy in 18 cases of intracranial tumour—72.2 per cent. Annuske and Reich found neuritis present in 95 per cent. of the cases examined. Dana estimates it at 80 per cent. In Bernhardt's table of 485 cases, an ophthalmoscopic examination was made in 154 cases, and choked disc found in 104—66.2 per cent. In 601 cases collected by Martin the fundus was examined in 590, and optic neuritis or atrophy found in 77.3 per cent. In 27 cases described by Bramwell, 24 were examined ophthalmoscopically and 20 found to have, or to have had, optic neuritis—83 per cent. The averages of those given would be 78.2 per cent., which is probably very near to the actual frequency. *Localising value.*—If we consider the localising value of neuritis, whether unilateral or double, in cases of brain tumour, the papillitis alone is of no value whatever as a means of localising the tumour. Tumour of the corpora quadrigemina gives the highest percentage—100 per cent.; next comes tumour of the parieto-occipital region—87.8 per cent.—with tumour of the cerebellum a close third—87.2 per cent. Tumours of other parts of the brain follow so closely, however, that it would be folly to venture a guess as to location from this symptom alone. The greater frequency of the occurrence of unilateral optic neuritis on the side of the tumour is conclusively shown, but we find that this fact is of no importance except in the frontal, temporo-sphenoidal and motor portion of the cerebrum. In tumour occurring in these portions of the brain, the proportion is as 4 to 1 in favour of the tumour being on the side of the brain corresponding with the neuritis. In regard to the kind of tumour, little can be determined by the papillitis. It is known that papillitis is most often absent in tubercular tumours, most frequent in glioma and cysts. The size of the tumour appears to have no bearing on the development of papillitis. Unilateral papillitis may be produced by direct implication of the nerve in the new growth, but this is only observed in a minority of the cases. (From Dr. John E. Week's paper in the Journal of the American Medical Association, December 23, 1899.)

CEREBELLAR TUMOURS, TREATMENT OF.

Having diagnosed the situation of the tumour, the right course of treatment would seem to be to trephine the skull and remove it; there are, however, many points to be considered. Firstly, then, with regard to life, there can be no doubt that children do not stand operations for the removal of large tumours well, from the great disturbance of intracranial pressure that takes place. On the other hand, if the symptoms are progressive and the sight is well preserved, the child will be given the best chance of recovery by removal of the tumour; there are, however, many difficulties, for it is almost impossible to decide whether the tumour is encapsulated or infiltrating; and in the latter instance no good could result from the attempt to remove it. Again, as I have already mentioned, three-quarters of the tumours occurring in the cerebellum of children are tuberculous; and, apart from the fact that this form of growth frequently tends to become quiescent, the interference with such a tumour renders the patient especially liable to the onset of tuberculous meningitis. The second point is with regard to the eyesight. There is no doubt that the opening of the skull will often preserve the vision to a very considerable extent, which would otherwise have been completely lost; and, therefore, in any case of cerebral tumour it is well to consider the advisability of opening the skull, even if one cannot accurately localise the tumour, simply with the view of saving the eyesight. Passing, then, from the more radical treatment by operation to the palliative remedies, I would advise you in any case in which the symptoms of vomiting, headache, and optic neuritis are present to use inunctions of mercury and iodide of potassium, pushing the latter to large doses. I have notes of one or two cases in which this has been followed by successful results. (From Dr. F. E. Batten's paper in the Physician and Surgeon, March 22, 1900.)

CHOREA, HYOSCINE HYDROBROMATE IN.

Hyoscine hydrobromate has been tried by A. C. Rendle, of Madras, India (*Brit. Med. Jour.*, No. 2013, 1899), on a bad case of chorea in a youth of 16 years. He was thin and anæmic; the temperature was slightly raised; the tongue was dry and coated with a brownish fur; the pulse was weak and the respirations irregular; there were constant involuntary movements. Albumin was present in his urine. Potassium bromide, chloral hydrate, and increasing doses of arsenic gave no relief. He was very restless at night, and morphine eased him slightly. Hyoscine hydrobromate in doses of 1/200 of a grain was injected hypodermically twice a day. On the day following the first injection there was marked improvement in the choreal movements. The dose was increased to 1/100 of a grain, and given three times a day. In a week the movements had almost entirely ceased. The hydrobromate was then discontinued and the arsenic treatment resumed. The patient made an excellent recovery. Chorea is an extremely fatal disease in India.—Alienist and Neurologist. (Pediatrics, April, 1900.)

CORDA EQUINA, INJURY TO.

Kienböck showed at the Vienna Medical Club a male patient, aged 45 years, who two years ago fell from a height on his buttocks. He never was unconscious, but was lame for some time after, from which he recovered in two months, being able to walk about as before. On the other hand, the bowel and urine lesion remained irreparable. From the time of the injury the catheter had to be used and the bladder irrigated; at present incontinence exists. The bowels have to be cleared out by injections; "cold paræsthesia" is present over the buttocks, perineum, and on inner side of the upper part of the legs. Between the first and second lumbar vertebræ there is space which indicates a fracture of the spinal cord, which seems to be confined to the conus medullæ spinalis as the symptoms are against a caudal lesion as the symmetry, absence of irritation phenomena and a gradual reduction of the sensation in the surroundings. No hope of further improvement can be anticipated, neither is it likely to grow worse. (Medical Press and Circular, March 21, 1900.)

EPILEPTIC AMBULATORY AUTOMATISM.

Ambulatory automatism, or that condition in which an individual consciously or unconsciously performs more or less complex ambulatory acts over which he has no control, is a symptom-complex occurring rather frequently in hysteria, less frequently in epilepsy, occasionally in neurasthenia, and rarely in alcoholism, degeneracy, &c. This epileptic automatism, together with the many other peculiar manifestations of masked epilepsy, described in recent years, indicates the difficulties in classification of epileptic conditions for practical clinical work. The somewhat arbitrary division of epilepsy into petit mal and grand mal, and the division of the latter into the aura, initial cry, tonic, clonic, and post-convulsive phenomena of most text-books, while very valuable for teaching and demonstrating purposes, yet in the scientific investigation in our daily clinical work find rather a limited field of usefulness. From a purely clinical standpoint we can divide epileptic manifestations into those purely physical, purely motor, or purely sensory, or combinations of any or all of these. In his classification our case would be a psycho-motor form of epilepsy. All of the equivalents of epilepsy could be arranged according to this classification with the possible exception of the attacks of profuse perspiration which sometimes occur. (From Dr. D. J. McCarthy's paper in the Journal of Nervous and Mental Disease, March, 1900.)

HEADACHE AND OPTIC NEURITIS.

(From Dr. R. T. Williamson and Mr. E. Roberts's paper, which is based on 100 cases.) In all cases of double optic neuritis a systematic and careful examination of the patients should be made. The urine and cardio-vascular system should be examined for signs of chronic interstitial nephritis ; the gums should be examined for the lead line, and other indications of lead poisoning should be sought for ; the question of chlorosis or other "blood disease" should be considered ; and the ears should be examined for signs of otitis. But when all these conditions have been excluded, and when the symptoms are apparently due to a cerebral affection, there is one group of cases in which localising brain symptoms are absent, and in which the chief indications of disease are headache, double optic neuritis, and often vomiting. In most of these cases syphilis can be also excluded. A diagnosis of brain tumour is given, and the growth is thought to be situated in some region in which the localising symptoms are at first indefinite—cerebellum, temporo-sphenoidal lobe, or præfrontal region. Such a diagnosis often proves to be correct, and sometimes by necropsy. But sometimes, to the surprise of the medical man, a fatal termination does not occur ; the symptoms sometimes disappear, and the patient recovers, though very often impairment or loss of vision remains. The patient may continue in good health for years or for a lifetime afterwards. The chief object of our article is to call attention to this class of cases, and to indicate the frequency of their occurrence. Nineteen out of 100 cases of double optic neuritis with headache could (after careful examination) be placed in this group. Possibly in some cases the symptoms are caused by a non-malignant tumour (or tuberculous mass) which ceases to extend, and becomes quiescent and encapsuled. In some cases of double optic neuritis with headache and general cerebral symptoms, when recovery occurs the cause is probably distension of the ventricles of the brain with fluid—serous meningitis of the ventricles (Quincke). (The Lancet, May 12, 1900.)

HYSTERIA, TREATMENT OF.

In the *Indian Medical Record* of Calcutta (January 10, 1900) Surgeon-Major R. E. Wrafter, of Dehra Dun, recommends certain procedures in the treatment of hysteria. The first object is the relief of the patient during the actual paroxysm. If the attack be severe and protracted, care is to be taken that the patient does not injure herself. Cold water to the face, fresh air, rubbing the temples with spiritus ætheris comp., are often effectual to stop the paroxysm. It is usually impossible to give medicine by the mouth, as the teeth are either tightly shut or the power of deglutition is lost. Should it be possible, however, it may be advisable to give internally a mixture of spirits chloroformi, spirits ætheris comp., and aqua camphoræ, together with tinct. lavendulæ comp. If this cannot be done, an enema of ol. terebinthinæ or tinct. asafœtida may be employed to cut short the attack. In the interval between the attacks internal medication may be employed to advantage. The indications are to allay the excitability of the nervous system and to improve digestion. In plethoric patients, cathartics, low regimen, and regular exercise are useful. In languid patients, tonics are indicated. Myrrh, bromide of potassium and cinchona, a course of mineral waters, daily exercise, tepid bathing, and generous diet will prove very efficacious as adjuncts in the treatment. Aromatic distilled waters are useful as carminatives where flatulency is present. Hysterical patients should never be roughly treated, and, above all, the physician must always be careful that no other disease co-exist. Some management of the mind, looking to its greater stability, is also very useful when properly carried out. A woman can often, by well-timed firmness on the part of the practitioner, resist the tendency to an attack. (From abstract in Medical News, March 3, 1900.)

INSANITY, RECURRENT.

Dr. Kerr thus summarises his conclusions : (1) That recurrent cases form a large proportion of the curable cases admitted into asylums ; (2) that in these cases hereditary predisposition to insanity is present in a greater number than in primary cases ; (3) that alcoholic or other excess is a frequent factor in the causation of relapses ; (4) that in cases in early life, menstrual irregularities in the female and masturbation in the male are frequently present ; (5) that the puerperal period and the periods of gestation and lactation account for a large proportion of female recurrent attacks ; (6) that the climacteric period in both sexes is a potent predisposing or exciting cause ; (7) that the majority of the attacks occur in middle life ; the first attack, however, is most frequent in the adolescent period, and is later in males than females ; (8) that the prevailing forms of insanity are maniacal, melancholic forms being almost restricted to the middle period of life ; (9) that the tendency is towards recovery, minor relapses being frequent before complete convalescence; (10) that the largest proportion of chronic cases is found in second attacks; (11) that in many of the cases a certain periodicity is established, the tendency, however, being towards chronic insanity; (12) that this class of patients furnishes many who are dangerous to themselves and others, a danger which is increased by the impulsive character of their acts, and the frequent absence of marked premonitory symptoms before the onset of the attack. (Glasgow Medical Journal, December, 1899.)

INSANITY, COLD PACK IN.

Dr. Abbott read a paper before the Boston Medico-Psychological Society, chiefly with the view of calling attention to the marked social improvement (so called because of the patient's improvement in his social relations with those about him) which followed the occasional use, or the continuous use for short periods of time, of the cold wet pack in cases so excited, violent, or otherwise difficult to manage, that they would have needed seclusion or restraint by nurses or the camisole. The technique used was practically that described in Baruch's "Hydrotherapy," and it was found that if the very desirable results were to be obtained, four precautions must be very carefully observed: (1) Skin surfaces must be kept separated by wet sheet; (2) the blankets must be kept closely drawn around the neck to exclude the air; (3) the head must be kept constantly cool by means of frequently-renewed wet cloths wrapped about it; and (4) the least possible time must be used in getting the patient into the pack. The water in which the sheets were wet was 80° F. for a first pack, about 70° for the second, and 60° for subsequent ones. Menstruation was not considered a contraindication; the water was raised to 70° for two days, then lowered to its previous temperature. Patients were kept in the pack from one to three hours, occasionally even longer. In 25 cases treated no harmful results and no disturbing symptoms occurred. The cases were too few in number and the packs given for too short a time to warrant any conclusions as to their therapeutic value in their psychoses. (From report in the Boston Medical and Surgical Journal, February 15, 1900.)

INSOMNIA.

(By Dr. Bradbury in "Allbutt's System of Medicine.") For ordinary cases of sleeplessness simple means very often suffice. Some people read themselves to sleep, some count; others, like Southey, think of some monotonous discourse. One of my patients used to hang his feet out of bed for some time and then put them in again. Walking about naked, or a cold or tepid bath, is often useful. Massage, especially of the abdomen, thighs, and legs, as in Dr. Eccles's method of treating insomnia, is sometimes advantageous. This method is believed to produce temporary anæmia of the brain by causing a determination of blood to the manipulated parts ; and it may be further aided by a hot compress to the abdomen. In the case of cold feet, vigorous rubbing, or a hot bottle, or a hot foot-bath with mustard in it, is beneficial ; or, again, a hot sitz-bath may be used. Attention should also be given to the work of the stomach. As a rule a light supper is the best ; and for many, and especially those who wake in the middle of the night, a little hot milk or meat-juice containing a small amount of alcohol is helpful. The evacuations should also be attended to, and the bladder especially should be relieved. Sleeplessness from overwork, especially from literary work, requires mental rest and change of air and scene. Temporary exposure to the cold air of the bedroom, or a wet pack, or a bath is often of use ; but if the insomnia continues it is necessary to give a mild hypnotic, such as twenty grains of sulphonal or trional, or thirty or forty grains of bromide of potassium, to break the habit of sleeplessness. Capsules containing 30 mm. of turpentine given at bedtime are sometimes beneficial in the insomnia of overwork and worry. The drug acts as a stimulant and derivative, and is stated to succeed best in plethoric cases. No beverages containing caffeine should be taken after breakfast. (From Practical Notes in the Practitioner, January, 1900.)

INSOMNIA.

A number of the less common causes of disturbed sleep were discussed recently by Oppenheim (*Berliner klin. Woch.*, December 4, 1899) before the Berlin Society for Psychiatry and Nervous Diseases. The qualification, psychogenic or deogenic, is applicable to insomnia due to excessive mental activity, delusions, or emotional disturbances, as in the insane, the hysteric, and the neurasthenic. Closely related to this variety of sleeplessness is that associated with hyperæsthesia of the special senses, particularly of hearing. Profound visual or auditory impressions likewise may prevent sleep. Insomnia due to pain of any variety or origin may be designated algogenic or dolorose. Some forms of pain appear or undergo exacerbation only during sleep. Various paræsthesiæ may have a disturbing influence on sleep. Pruritis may also act in the same way. An abnormal sense of heat or cold—thermo-paræsthesia—is not uncommon. There may, further, be paræsthesiæ of the special senses, as manifested by tinnitus aurium or visual hallucinations. Olfactory and gustatory paræsthesiæ are rare as causes of insomnia. Gastro-intestinal disorders, and particularly their nervous features, are important factors in the etiology of sleeplessness. Cardiac and vascular disturbances exert an unfavourable influence on sleep. Palpitation of the heart and a sense of pulsation in various parts of the body may have a disturbing effect. Respiratory disorders, and particularly asthmatic states, have a like effect. Sleep may be interfered with, further, by manifestations of motor irritability, such as painful spasm and twitching of varied kinds. Insomnia is rarely due to secretory disorders, such as hyperidrosis, salivation, polyuria, and pollakiuria. Sleeplessness may be of sexual origin, sometimes of psychogenic variety, at other times from excess, and at still others from erections. (From a leading article in the Journal of the American Medical Association, January 6, 1900.)

INSOMNIA AND DYSPEPSIA.

(By Sir William Broadbent, *Lancet*, January 27, 1900.) The most common cause of sleeplessness is indigestion, especially with gaseous distension of the stomach when its muscular walls are atonic. It is highly characteristic of this form of sleeplessness that the patient is aroused from sleep, into which he falls on getting into bed, at a certain hour every night or early morning owing to distension of the stomach, and then remains awake. The treatment is that of dyspepsia with, in addition, a glass of hot water before undressing for about a week; or an alkaline carminative draught (carbonate and sulphorcarbolate of sodium with aromatic spirits of ammonium, compound tincture of chloroform, or ether and peppermint water, or camphor water, and sometimes bromide of sodium or ammonium; or sal volatile and carbonate of sodium. Friction over the epigastrium or between the shoulders. The stomach may be washed out. Strong tea and coffee may give rise to sleeplessness if taken in going to bed, but if taken during the afternoon it is more likely that flatulent dyspepsia may be the real cause of the trouble. (From Dr. F. L. Wood's abstract in the Medical Chronicle, March, 1900.)

LAMINECTOMY FOR POTT'S PARAPLEGIA.

(By Dr. F. Trendelenburg, Leipzig.) The author believes the unfavourable opinions generally held regarding the value of this operation are unwarranted. He has performed this operation eight times in the last four years. The ages of the patients were respectively 9, 11, 14, 17, 18 (three), and 36 years. In only one was the paralysis of recent date, in the others not less than six months, and in one case of seventeen years' duration. The paralysis was for the most part of the spastic type; in one case of epidural abscess there was complete sensory and vesical paralysis; otherwise the cases presented but little if any disturbance of sensation or of the functions of the bladder and rectum. The exciting cause of the paralysis was found to be, abscess 1, cheesy focus in the spinal canal 1, granulation tissue of a peri-pachymeningitis 1, abnormal narrowness of the canal from a kyphosis without other changes, 5 times. The result of operation as manifested by an improvement of the paralysis was evident in half of the cases in the first few days or weeks, in the others there was either no change, or, even after very cautious procedures, a change for the worse, probably due to œdema of the spinal cord, and directly after operation a transformation of the spastic into a flaccid paralysis, and vesical disturbances supervened or were exaggerated. This unfavourable state then passed off in a few weeks and improvement gradually took place. A veritable improvement as contrasting with the previous condition was noted from three to nine months later. In only two cases was there no improvement, in the remainder the main result was good. Complete or very nearly complete cure was obtained four times, although in one of these, a case of edidural abscess, there was a temporary remission with development of a new abscess. Two patients are still under treatment, one is already distinctly better. (From Dr. C. L. Gibson's abstract in the Annals of Surgery, May, 1900.)

MENINGISM FROM HELMINTHIASIS.

C. A. Annaratone (*Giornale Medico del Regio Esercito*, March 31, 1900) reports the case of a patient who died apparently of meningitis. No abnormality was found in the meninges or brain, but in the stomach was a mass of ascarides lumbricoides. Chauson has found that by injecting the juice of ascarides obtained from horses and pigs into guinea-pigs, death was produced. The author believes that in the reaction against the too great importance which used to be attributed to intestinal worms as a cause of disease, their real powers of injury by the production of intoxication has been overlooked or underrated. The subject deserves study. (Medical Record, May 26, 1900.)

MENINGITIS, KERNIG'S SYMPTOM IN.

(By Dr. W. J. Buchanan, *British Medical Journal*, February 3, 1900). I have found this symptom a very early one in four cases of the disease which I have met with in the last few months. I wish now to call attention to what I think must be regarded as the occurrence of the symptom in connection with the upper extremities. In a case admitted to hospital under my care on December 28, 1899, the patient complained of excessive pain in the forehead and back of the neck; he was partially unconscious. Kernig's symptom was present very distinctly in both legs when the patient sat up; but it was also found that both forearms were held in a position of extreme flexion across the chest, and on attempting to straighten the arms it was found impossible to do so. The tense state of the flexor muscles exactly resembled that of the hamstring muscles in this symptom as usually described. This condition of the arms continued till a late period of the illness, when they became relaxed, whereas the leg symptoms continued to the very last. The appearances found post mortem were typical of the disease.

MIGRAINE.

The following are Dr. William G. Spiller's conclusions: (1) Attacks of migraine occur associated with nausea and vomiting; this form is known as simple migraine, and usually remains unaltered during the life of the patient. (2) In other cases visual disturbances (hemianopsia, scintillating scotoma, amaurosis, &c.) are associated with the migraine, and the disease is then known as ophthalmic migraine. (3) When paralysis of the ocular muscles occurs with the migraine, the disease is described as ophthalmoplegic migraine. (4) Migraine, especially the ophthalmic form, is related to epilepsy, and the attacks of migraine may precede for many years the convulsive attacks of epilepsy, although in most cases of migraine no convulsions are ever detected. (5) In some cases epilepsy appears in the form of one or more of the disturbances seen occasionally with migraine, and later, even after many years, convulsions develop. The disease may be epilepsy from the beginning. It matters little, with our uncertain knowledge of the pathology of the two diseases, whether we regard these as abortive cases (*formes frustes*) of migraine that later become associated with epilepsy, or as abortive forms of epilepsy (sensory epilepsy), in which the convulsions later become apparent, provided we recognise a relation between some forms of migraine and epilepsy. (American Journal of Medical Science, January, 1900.)

MYASTHENIA GRAVIS PSEUDO-PARALYTICA.

The two cases of which I show examples are usually marked by the following features:—Symptoms of bulbar paralysis not usually very strongly marked, with ptosis—and sometimes ophthalmoplegia, weakness, and rapid fatigability of muscles of the trunk and extremities, as well as of those innervated from the bulb ; absence of muscular atrophy and fibrillary tremors ; normal excitability by induced currents at the moment of application, provided that the muscle is not already fatigued by voluntary exertion, rapid decrease and disappearance of contractility under application of electric currents, with restored excitability after a very short rest ; the occurrence of remissions and exacerbations ; almost complete absence of sensory troubles ; immunity of the function of bladder and rectum ; sensorium unaffected ; negative results of necropsy. Oppenheim points out that in polioencephalo-myelitis the symptoms of "myasthenic reaction," remissions and fatigue phenomena are all absent.

[*The Myasthenic Reaction.*—The muscles respond to faradism in varying degree on different occasions. For instance, if an electrode be placed upon the motor point of the biceps a prompt and good contraction is obtained except when the muscle has been fatigued by voluntary exertion. The initial contraction in certain muscles is very much poorer than in others, and some muscles tire very much more easily than others. As the result of faradic stimulation, voluntary power of contracting the muscle stimulated is much diminished and a feeling of fatigue induced. As regards galvanism, after repeated stimulation, the muscular contractions become less, but the muscle cannot be tired to the same extent as is the case with the faradic current. No polar change can be demonstrated.]

Neither sex nor age appear to play any important part. The disease may be chronic or subacute, and in the narration of published cases it appears that there is almost always a tendency to very sudden exacerbations. Apparently, too, the symptoms may originate in various parts, and by no means necessarily in the bulbar district. Of the essential nature of the disease it is at present impossible to say anything definite. I can quite understand these cases being mistaken (as so often happens with the unknown) for examples of hysteria. There ought, however, to be no such error, and the presence of the "myasthenic reaction" alone is amply sufficient to prevent so serious a mistake being committed. (From Dr. Buzzard's case in the British Medical Journal, March 3, 1900.)

NARCOLEPSY.

(From Dr. D. J. McCarthy's paper in the *American Journal of Medical Science*, February, 1900). The differential diagnosis of the various hysterical states is not of so much importance as the differentiation of hysterical conditions, as a class, from the other conditions of the organism which produce morbid sleep. These may be divided into two classes : (1) the epileptoid sleeping states, such as *petit mal*, epileptic equivalent, &c., and

(2) the morbid sleep depending on toxæmic states and disturbed cerebral circulation and nutrition, which cannot very often be separated from each other. To this class belong the somnolence of uræmia, cholæmia, &c.; of cardiac and pulmonary diseases; of organic brain disease and arterio-sclerosis; of toxic products from without, as opium, &c.; and, finally, the cerebral exhaustion of typhoid and some blood diseases. The epileptoid sleeping states are easily recognised, as a rule, by the sudden onset of the sleep, often with an aura; the complete unconsciousness during the attack, and the usual sequelæ of epileptic occurrences, such as headache, confusion, &c. I have found nothing in my studies of sleep and its disturbances in this clinic to support the idea that the condition known as narcolepsy is a distinct neurosis or disease. [Recently the Editor saw a case of narcolepsy in a young man, an engine-driver, who was supposed to be in good health. He was found to have aortic disease.]

NEURASTHENIA, DIAGNOSIS OF.

Neurasthenia must be differentiated from melancholia, hysteria, general paresis, bromism, locomotor ataxia in its early stage, and hypochondria. Melancholia is characterised by obstinate insomnia, by some curious sensations, as a pressure, a creeping ache up or down or actual pain in the back of the head and neck, sometimes running far down the spine, and sometimes as far up as the vertex of the skull; by a characteristically melancholic facies, nervous and melancholy agitation, or absolute silence, with or without cataleptic symptoms. None of these symptom-groups are present in neurasthenia. The hysteric may have a hemianæsthesia, *i.e.*, an impaired sensation of pain, touch, hearing, smell, or taste on one side of the body, or a paralysis involving only one limb (monoplegia), or hysterical convulsions —symptoms never observed in neurasthenia. In cases of hysteria of a less marked type there is no real physical depression, but immediate response to some suggestion or some placebo in the way of treatment. In both hysteria and neurasthenia there may be a tremor which, in the hysteric may be overcome by suggestion, but which is much slower to improve in the neurasthenic. In general paresis there is a marked stupidity, either occasionally or continuously, a tremor of the tongue and facial muscles, lost or unequal knee-jerks, unequal pupils, and occasional days when the patient is flushed, has a staggering gait, and is more stupid, and has stupid delusions, generally of some exalted type. No case of neurasthenia ever has these symptoms. Bromism is usually detected by the stupidity, peculiar fœtid breath and the widely dilated pupils. The early stage of locomotor ataxia will have lost knee-jerks, lightning-like or stabbing pains, seldom repeated in the same place, and usually severe in character; and with these is often associated some difficulty in micturition or there may be distinct inco-ordination. (From Dr. L. Carter Gray's paper in the Medical News, December 26, 1899.)

NEURITIS, TUBERCULOUS.

Wilson (*Quarterly Medical Journal*, November, 1899, p. 46), from a review of the literature and after citing some personal observations of tuberculous neuritus, draws the following conclusions:—That a peripheral neuritis occurs sometimes in phthisis; that it occurs in middle-aged patients and late in the course of the disease; that the symptoms are mixed motor and sensory, but that the motor are the most typical and constant; that whatever the symptoms may be, they vary much from time to time, and, as a rule, tend to get better; that the paralysis is marked by much muscular atrophy, and that changes in the electrical reactions are present; that the affection is probably due to a toxin produced by the tubercle bacilli; that on histological examination of the nerves a marked neuritis is found, but no disease of the brain or spinal cord. (American Journal of Medical Science, March, 1900.)

PARALYSIS, PERIPHERAL OBSTETRIC.

After the injury is done, support for the arm is essential. Thus further dragging on the stretched nerves or separation of their torn ends is prevented, the stretched ligaments are supported, and the muscles are given a chance to recover their tone. The muscles should be protected from undue stretching just as in the early stages of infantile paralysis. Thus for a time further harm is prevented. Later, massage and electricity have their uses. By these simple measures, or even without treatment recovery will occur in probably a considerable majority of the cases. The obstetricians thus regard obstetrical paralysis rather lightly, while the neurologists and orthopædic surgeons, who only see those cases which do not recover, regard the prognosis as bad. This difference is due probably to the varying degree of injury to the nerves; in one case simple stretching, in another a rupture of certain fibres of a nerve, and in the most severe possibly a complete tearing apart of the whole nerve. In cases not improving decidedly within the first six or eight weeks of life a serious injury to the nerves is to be regarded as probable, and consequently the outlook for marked improvement is poor, although improvement has occurred after years. It is a question whether in certain cases the injury cannot be repaired by surgical interference. (From Dr. J. S. Stone's paper in the Boston Medical and Surgical Journal, March 15, 1900.)

PAVOR DIURNUS IN CHILDREN.

The symptoms of waking-terrors or day-terrors are fairly constant. A nervous, excitable child, in the midst of his play or while sitting quietly in a room with other people, suddenly, without any apparent cause, begins to scream and looks terrified. Sometimes he says that some imaginary person is coming after him, or that he hears something which frightens him, or he has some other form of hallucination or delusion. He rushes screaming to his mother or to some other person for protection, and no coaxing or attempts to soothe seem to have any effect in pacifying him. In one case when the attacks occurred the child had a strange look about the eyes, which the father described as "a vacant look." This child also turned pale, as children very readily do, with fear. There was never any loss of consciousness in any of the cases, and in all of them the children recognised those about them. It must be mentioned, however, that Dr. J. F. Goodhart states that in these attacks the child sometimes shows a definite dread of a nurse or of the mother, of whom in times of health the child is even inordinately fond ; and he also says he has known a child to be quite maniacal in the attacks. The duration of the attacks varied from a few seconds up to about a quarter of an hour, and their frequency varied from one in a fortnight up to 20 in a day. It is important to notice that although the day attacks may be associated with night terrors they may also occur without any nocturnal symptoms. (From Dr. G. F. Still's paper in The Lancet, February 3, 1900.)

PSYCHOSIS, ACUTE.—TREATMENT BY REST IN BED.

(From Dr. P. Serieux's paper.) Rest in bed alone can ensure to these patients that rest which the brain and the organism as a whole require ; it is easy of application, its results in respect of the most troublesome symptoms of mental disease are indisputable, it obviates the physical and psychical complications which often impede recovery, and it enables us to dispense with prolonged isolation in a cell. So thoroughly convinced are we of the advantages of this therapeutical method that we do not hesitate to assert that it will rank with the suppression of restraint (no restraint), the open-door and the colonisation methods, as one of the most valuable acquisitions of modern psychiatry, and this method involves as a corollary a radical rearrangement of our superannuated system of dealing with the insane, a system which will henceforth stand condemned. The general application of the method will, of necessity, do away with our prison asylums, where therapeutical requirements count for so little, and will replace them by hospitals for the treatment of acute cases, by agricultural colonies for convalescents, intermittent and chronic cases. The treatment raises the lunatic to the dignity of a patient, a measure called for close upon a century ago by Pinel. The bed treatment alone will effectually complete the change ; we shall no longer be satisfied with shutting up the insane ; they will be treated, and we shall be enabled to return to their families and friends a good number of unfortunate beings, who have hitherto been condemned by the imperfect method of treatment at our disposal to remain uncured. (Medical Press and Circular, November 29, 1899.)

REFLEX, BABINSKI'S.

The Babinski reflex (obtained by stroking the sole, and consisting of deliberate and constant extension of the great toe, with or without extension and separation of other toes) is never present in health, and our observations lead us to doubt its existence in either functional or organic nervous or other disease not implicating the pyramidal tract. This reflex is often the earliest to appear in pyramidal tract disease, *e.g.*, at the onset of a hemiplegic attack before the establishment of the exaggerated knee-jerk and ankle-clonus ; it may persist during a period when other reflexes are absent, *e.g.*, when knee-jerk and ankle-clonus are wanting on account of ankylosis, contracture and muscular wasting, as in long standing diplegia, or of degenerative sequences as in combined system disease. This reflex furnishes, therefore, a most important practical aid in diagnosis. (From Drs. Walton and Paul's paper in the Journal of Nervous and Mental Disease, June, 1900.)

SCIATICA, MECHANICAL TREATMENT OF.

Frétin *(Journal de Médecine de Paris*, No. 2, 1900) advises as an efficient treatment for sciatica—friction, massage, and vibrations of the nerve trunk ; massage and vibration of all the muscles of the leg and thigh ; passive extension of the sciatic nerve ; and gymnastic movements of the lower extremity of the trunk. Various manipulations are described in detail, and, according to the illustrations, imply an unusual degree of strength on the part of the rubber and a passive endurance on the part of the patient which is rarely encountered in the Anglo-Saxon race. Treatment should be repeated daily, and should be continued days, weeks, or even months. It is said to give better results than any other method. (Therapeutic Gazette, 1900, p. 340.)

SPINAL CORD TUMOURS.

Schultze (*Zeitschrift für Nervenheilkunde*, December 7, 1899) reports two successful cases of tumour of the spinal cord diagnosed and treated surgically, thus adding to the list of 20 similar cases published by Bruns in which beneficial results had been obtained only in six. The first patient, a woman, aged 49 years, suffered from hysterical and neurasthenic symptoms which were succeeded by signs of spinal disease, symptoms of compression of the spinal cord, and paraplegia. The localising symptoms pointed to the mid-dorsal regions, and on operation a tumour was discovered compressing the cord in the region of the fourth to the seventh dorsal segments and lying between the dura mater and the vertebræ. This was removed and for a week after the operation the symptoms grew worse, after which they steadily improved, and in a few months the patient was able to walk and to get about freely. The second case was that of a man, aged 28 years, with symptoms of spastic paraplegia and with an area of anæsthesia extending up to the level of the mid-dorsal segment of the cord. On opening the spinal canal a tumour was found at the level of the sixth dorsal vertebra and was removed. The sensory and motor troubles temporarily grew worse during the few days succeeding the operation. After this the patient improved steadily, and was able to walk about and follow his occupation as a gardener. Schultze points out that these two cases throw more favourable light on the statistics of operation for spinal tumours, and that in view of the utter hopelessness and futility of expectant and palliative treatment there is every reason why surgical operation should be resorted to when once the diagnosis of intra-spinal tumour is confirmed. (The Lancet, March 17, 1900.)

SPINAL CORD, TRAUMATIC HEMORRHAGE INTO.

The treatment of both large and small hemorrhages is to be conducted on the same lines. As the hemorrhages are within the cord, they are beyond the reach of surgical aid, and operation, therefore, becomes absurd. Until surgeons generally become more familiar with the differential diagnosis of injuries to the spinal cord, cases of primary hæmatomyelia will continue to be operated upon; and the relatively favourable prognosis inherent to them will be turned to the embellishment of the fame of the operator. Rest in bed is the first primary requisite for these cases. When the legs are paralysed, there is of course no other alternative. Then a water-bed is necessary. But even when the patient can walk, he should be kept in bed for ten days or two weeks after the accident, or longer if necessary.

Orthopædic appliances are not indicated. The customary attention to bowels and bladder should be carefully given. The pain in the neck can often be relieved by the use of the thermo-cautery, or analgesic drugs may be necessary. The iodide of potassium in ten-grain doses may have an effect in hastening the absorption of the blood clot. Faradism to the paralysed muscles should be given as long as they react to it. If they fail to respond, galvanism is to be substituted. After the immediate effects of the injury have passed, massage and passive motion in the neck are useful. Disseminated hemorrhage: There is little to be said concerning the clinical characteristics of primary disseminated hæmatomyelia, for we have no means of positively diagnosticating it during life. If, combined with the scattered blood extravasations, there is a point of bleeding in a functionally important region of the cord large enough to give focal symptoms, there will be the symptoms of focal hæmatomyelia plus the evidences of a general commotion of the cord. When, however, there is no single collection of blood cells large enough to interfere with the function of afferent or efferent tracts, of cell groups or of reflex arcs, in a way to permit a clinical recognition of local interference, the diagnosis, if it be attempted, can at best be only one of probability, depending upon the pathological possibility of disseminated hemorrhages, together with the general clinical conditions of shock. It seems to be extremely probable that many of the vague yet persistent nervous disturbances which are occasionally seen after severe general traumatisms are the direct results of such hemorrhages. (From Dr. Pearce Bailey's paper in the Medical Record, April 7, 1900.)

STATUS EPILEPTICUS, TREATMENT OF.

The advance of our knowledge of treatment of status is not great. A significant fact of the futility of medicinal treatment is seen in that all plans of medication are of service in isolated cases. The percentage of recoveries remains about sixty or seventy in spite of improved methods of treatment. In the medication of status it should always be borne in mind that that which is indicated for the convulsive stage is contra-indicated for the stuporous stage, and that the administration of large doses of chloral, uncombined with other drugs, has come to be considered as dangerous medication, in the light of depressing effects obtained from chloral upon weak hearts. Notwithstanding the frequent abscess formations from hypodermic bromide medication, this line of treatment is steadily growing in favour in the severest cases of status. Good general nursing is nowhere more needed than in giving proper care to epileptics suffering from status, either in their own homes or in special hospitals for this disease. (From a leading article in the Medical Record, March 3, 1900.)

SYPHILIS AND GENERAL PARALYSIS.

Dr. Mott's idea (*Journal of Mental Science*, October, 1899) is that syphilis exists in from 60 to 65 per cent. of cases of general paralysis, and that it acts by lowering the specific vital energy of the nerve cells, so that systems of neurons may, under the influence of stress in one form or another, die prematurely. It is in the case of juvenile general paralysis that the evidence of causal effect of syphilis is strongest, for in a series of 23 cases syphilis was absolutely proved in 80 per cent., in 60 per cent. there were signs on the body, and in 20 per cent. syphilis could not be excluded. In the production of the affections of the nervous system syphilis may operate in two ways. It may produce a specific inflammatory process affecting the membranes or blood-vessels, or both, or it may give rise to neoplastic growths.—M. Serieux and M. Farnarier (*Le Progrès Médical*, November 11, 1899) found in 46 cases a certain or probable history of syphilis in 50 per cent., and that it was the only etiological factor in 30 per cent. of the cases. The cerebral affection occurred, in general, ten or eleven years from the date of the infection, and in 70 per cent. a neuropathic soil favoured the development of the meningo-cerebral disease, which is regarded as a paratoxic affection. M. Joffroy remarks that though there are undoubted relations between syphilis and those two identical diseases, general paralysis and tabes, it has only a predisposing action in the production of these affections, and that statistics show that there are cases which are not syphilitic. Du Castel believes that general paralysis is a parasyphilitic and not a syphilitic affection. (From Dr. R. S. Stewart's periscope in the Glasgow Medical Journal, February, 1900.)

SYPHILIS OF THE NERVOUS SYSTEM.

Dr. W. Leszynsky read a paper before the New York County Association. He said that in every nervous case it is important to look for syphilis in the history. It must also be borne in mind that nervous disease may exist in a syphilitic patient without its necessarily being syphilitic in origin. There is an old tradition that syphilitic nervous disease has a favourable prognosis. Although such a prognosis is more favourable than that for other nervous diseases, it is unjustifiable to think that syphilitic nervous disease practically always gets better.

Syphilis itself is incurable, and yet most amenable to treatment. This looks like a paradox, but is eminently true. Early treatment is extremely effective and sometimes prevents the appearance of tertiary symptoms. Cases of syphilis are sometimes so mild, however, that they are overlooked, and it is especially in these that after-effects are noticed in the nervous system. Where nervous disease is evidently syphilitic in origin, mercury and the iodides should be given for two to three months. In exudative conditions such treatment is of value, whereas in degenerative conditions harmful results may follow. Tabes and general paralysis, while due to syphilis in certain cases, are practically never helped by mercury and the iodides. Certain symptoms of these diseases are even made worse by these drugs. Optic atrophy certainly progresses more rapidly under the use of mercury. (Medical News, January 20, 1900.)

TABES DORSALIS AND INSANITY.

Dr. Conolly Norman showed before the Royal Academy of Medicine in Ireland three cases illustrating the relations of insanity to tabes dorsalis. Dr. Norman, in reply to a question as to the association of insanity with tabes in these three cases, said that the association in the first case was probably only accidental. It might be that Cases 2 and 3 would some day develop symptoms resembling those of general paralysis, which would bring them into line with those cases seen every day, in which tabes appeared first and then general paralysis. Of course tabes dorsalis, like every other nervous disease, probably attacked, pre-eminently, those inclined to nervous failure. Referring to general paralysis associated with tabetic trouble, he pointed out that lesions had been traced in general paralysis in every part of the nervous system from the cortes to the nerves. From time to time they were wont to see the occurrence of cerebral crises, which were remarkably like the other visceral crises, which tended to show that the cerebral trouble was similar to elsewhere. He got from one to three cases per annum of locomotor ataxy which had gone round the Dublin hospitals, and then terminated with him, and turned out to be general paralytic cases. Replying to Dr. Dawson, he said the remissions of symptoms gave the first case a peculiar character, and it was to be noticed that there were remissions in the tabetic symptoms as well, although they were not so well marked. The patient was at one time so tabetic that he could not walk at all, but he was now able to get about. (Medical Press and Circular, April 11, 1900.)

TABES DORSALIS, EXERCISE TREATMENT OF.

Dr. Frenkel, of Heiden, who really introduced this treatment, thus describes it :—My procedure for the treatment of tabetic ataxy is as follows : I first determine as accurately as possible the degree and extent of the motor inco-ordination, that is to say, I do not simply ascertain the existence of ataxy of the lower or upper limbs, but I also endeavour to determine whether this ataxy manifests itself in the same manner or differently in the articular movements of the hip, knee, and foot ; the peculiarities of its extension to various groups of muscles ; whether or not it presents the same intensity in both limbs, &c. I then endeavour to decompose the ataxic movements as a whole into their simplest elements, and it is the latter that I first try to influence by a series of graduated exercises, in which the attention and will of the patient are largely brought to bear. I then gradually pass to exercises requiring more and more complicated movements, regulated according to the conditions existing in each particular case. Generally speaking, these exercises consist of rather simple rhythmic movements, such as touching alternately the fingers of each hand, circumduction of the foot in a circle drawn on the floor, walking along a straight line, also traced on the floor, designing geometrical figures, picking up one by one small wooden discs or other small objects, &c. For these exercises may also be used a variety of appliances, which it is easy to devise and construct so as to answer to the requirements in each case. It is indispensable to combat the ataxy of the muscles of the trunk, though these are almost entirely neglected in the usual treatment of tabes, in spite of the fact that they play a very important part in the disturbances of locomotion. The results obtained by this method of treatment naturally vary greatly in different subjects. (Medical Press and Circular, June 13, 1900.)

TABES DORSALIS, LARYNGOPLEGIA IN.

[Sir Felix Semon showed this very rare case before the Laryngological Society of London. He made the following remarks :] It is the third case I have ever seen of complete or nearly complete bilateral recurrent paralysis, and the first I have ever seen in tabes. There is only, so far as I know, one case of complete bilateral recurrent paralysis in tabes on record. This has been described by Gerhardt. Another very remarkable circumstance is the comparative loudness of the patient's voice. As a rule in bilateral recurrent paralysis, the voice is entirely extinct, and the whisper absolutely toneless. Finally, the manner in which a few fibres of the accessory and vagus have escaped (as shown by the fibrillary contraction of the palatinal muscles, by the possibility of closing the glottis on peripheral stimulation, by the maintained possibility of producing tension of the vocal cords through the circo-thyroids, and by the diminished, yet not quite abolished, reflex irritation of the palate and larynx) is very remarkable. (The Laryngoscope, April, 1900.)

TABES DORSALIS, TREATMENT OF.

Dr. Hirschkron (*Centralbl. f. d. ges. Therapie*, November, 1900) says that hydrotherapeutic measures are valuable, but require caution. Too many baths and at too high a temperature must be avoided—about 82 deg. F., and from five to twenty minutes' duration. In the early stages simple warm baths are best, but later, when there is anæsthesia, muscular weakness, and torpor, carbonic acid and moor baths are more stimulating. Packs, sitz and foot-baths, douches, and often hot air, are hurtful, and increase the lightning pains. The value of electrical treatment is apt to be overestimated. The application of the constant current to the spinal cord (anode at neck, cathode at sacrum) or to the sympathetic, gives a subjective feeling of well-being, but does not effect permanent good. The faradic current is much more useful, and in anæsthesia and paræsthesia its persevering local application often produces lasting benefit. Treatment by suspension is of no value, and often does harm. Systematic exercises in co-ordination of movement have proved of great use. They are carried out regularly for the legs and arms, and improve the co-ordinating power while giving exercise. The patient should not be allowed to tire himself, and they are contra-indicated if any of the severe complications be present. (Edinburgh Medical Journal, January, 1900.)

TABES DORSALIS, TREATMENT OF THE PAINS OF.

(From Dr. James Taylor's paper.) As regards drugs for the relief of the pains, phenacetin and antipyrin, migranin, and the other analgesics are very important. It is seldom you will have to resort to morphia. Out of ten or twelve cases which I have treated, morphia only had to be used in one, namely, in a patient who had severe gastric crises. I have never yet found it necessary to give morphia for the lightning pains of the tabes ; I have been able to relieve them by the use of the other drugs I have mentioned, and similar ones. (The Practitioner, June, 1900.) [Some may think that Dr. Taylor's statement about the use of morphine does not unfortunately apply to all cases, especially to that atrocious disease "tabes" dolorosa.—E.F.T.]

TETANY SIMULATING TETANUS.

Guinon (*Revue Mensuelle des Maladies de l'Enfance*, November, 1899, p. 524) reports the case of a boy, aged 4½ years, who, after complaining for three days of paroxysmal pain in the knees, was brought to the hospital with all the signs of tetanus. There was marked trismus, stiffness of the neck, and paroxysms of opisthotonos upon the slightest touch. There was, however, no fever, but Roux, who saw the case in consultation, inclined to the diagnosis of epidemic cerebro-spinal meningitis. This, however, was not confirmed by the subsequent course of the case, which resolved itself into a tetany, as shown by the fact that opisthotonos was produced only under certain definite conditions, and by the fact that, after a few days, appeared two symptoms absolutely characteristic of tetany: a contracture of the eyelids and a contracture of the lips, with the carp's snout appearance of the mouth. All these symptoms disappeared suddenly on the tenth day upon the appearance of an otorrhœa, following a median otitis, which had escaped observation. During convalescence the child had incontinence of urine and fæces. This is the second instance in which the author has observed a tetany with symptoms of tetanus, and he thinks the condition deserves to be classified as tetany of the pseudotetanus form. (American Journal of Medical Science, February, 1900.)

TORTICOLLIS AND ITS TREATMENT.

Dr. W. P. Wilkin related, before the New York Neurological Society, a case in a man, aged 33 years. Various methods of external and internal treatment had been tried without benefit. He had then been treated by the speaker at the Post-Graduate Hospital by suspension, and by the internal use of 18-grain doses of the valerianate of zinc. A point of importance in the treatment seemed to be allowing him considerable freedom in the hospital and a liberal diet, and placing him in a private room instead of in a hospital ward. Subsequently the man had experienced a great deal of relief while in a London hospital from the use of one grain of exalgin three times daily. In these spasmodic cases gentle pressure with one or two fingers was often enough to restore the head after it had been drawn violently to one side. One of the best methods of treatment for this variety seemed to be an abundance of rest and a quiet outdoor life. The employment of drugs alone could hardly be expected to accomplish much good.—Dr. Collins remarked that he had seen a number of cases of torticollis, but never one so severe and so disabling as this one. It was marvellous to see the prompt improvement that had followed the use of suspension. (Journal of Nervous and Mental Disease, May, 1900.)

Affections of the Circulatory System.

ANÆMIA, THE HEART IN.

Certain conclusions are drawn by Dr. Wybauw (*Journal Médical de Bruxelles*, March 15, 1900) from his observations on anæmic patients which may be new to some. He states that in anæmia an alteration in the cardiac muscle is often found which shows itself in resulting cardiac dilatation. In other cases—more especially in chlorosis—the heart is displaced upwards by the elevation of the diaphragm, the area of superficial cardiac dulness thus simulating that seen in dilatation. The cardiac dilatation found in anæmia is to be regarded as a true idiopathic dilatation resulting from over-exertion. Such lesions may not be accompanied by any of the customary symptoms, but simply by gastric phenomena. In cases of anæmia, therefore, the area of cardiac dulness must be carefully examined, more especially when gastric symptoms are complained of. Such dilatation may be recovered from either slowly or rapidly; in certain cases they may remain stationary. (Treatment, May, 1900.)

ANGINA PECTORIS.

At the Paris Medical Society a member spoke on the treatment of angina pectoris. Above all, the patient should be enjoined absolute rest. The windows of the room should be opened to procure as much pure air as possible. Injection of morphia was a good means of treatment, open, however, to the objection that if it were necessary to use them often, there was danger of intoxication or of accustoming the patient to the drug, producing finally morphia-mania. Chloral was too slow in its action to be employed at the moment of the attack, and in any case it had a toxic effect on weak hearts. The same might be said of chloroform and ether by inhalation. Iodide of ethyl and iodide of amyl, on the contrary, gave good results, but nitrate of amyl, in doses of from 18 to 20 drops on a handkerchief, should be preferred. Certain patients derive great benefit from nitro-glycerine, that is to say, those whose faces are congested, but with those who become pale during the attack and cadaverous-looking it does not succeed so well. Hydrobromate of quinine, given at the outset of the attack, prolongs the action of the nitro-glycerine. In the interim, iodide of potassium is the best agent in such cases; it should be given for months, if not years, at small doses (5 to 15 grains daily). The greatest perseverance is necessary, but to avoid iodism the treatment may be suspended ten days a month. In following that treatment the patient was almost sure to obtain very good results, and some had completely recovered. Instead of iodide of potassium, iodide of sodium, or strontium, or lithium might be given, but they are inferior to iodide of potassium. During fifteen days every month the nitro-glycerine might be given to advantage. The régime of the patients should be that of patient suffering from a grave heart affection :—Moderation at table, suppression of alcohol and tobacco, avoid moral emotions, muscular efforts, fatigue, dwell in a mild climate. (From report in Medical Press and Circular, January 17, 1900.)

AORTA, ANEURISM OF THE.

Moritz Schmidt (*Verhandlungen des XVII Congresses für Innere Medicin zu Karlsbad*, 1899) refers to the presence of laryngeal palsy as an early symptom ; he further alludes to two more recently recognised diagnostic aids, namely, tracheal tugging and the data afforded by transillumination by Roentgen rays. In the last eleven years Schmidt made the diagnosis of aortic aneurism in 54 cases. In 38 of these there was complete or partial paralysis of the left recurrent nerve ; in five cases there was right-sided, and in one case bilateral palsy. There were 52 males and two females. It was probable that only five of the patients had been liable to severe bodily effort. In 19 out of 31 cases observed during the last five years tracheal tugging was noted. Schmidt recommends Oliver's method of pressing the cricoid upward as better than that of Cardarelli, who says that if the larynx be pressed towards the left, tugging towards the right will be felt. Schmidt urges the routine employment of Roentgen rays. In connection with Rosenberg's postulate that for the certain diagnosis of aortic aneurism by these rays it is necessary to recognise a tumour of rounded form pulsating in all directions, he quotes a case of right-sided palsy of the recurrent where transillumination showed a tumour-like appearance of the aorta, with pulsation to the left but not to the right. The autopsy revealed an aneurism of the innominate, which compressed the aorta to the left. The subject of etiology is briefly reviewed, and attention is drawn to the extraordinary differences of opinion among investigators, some putting the frequency of syphilis in aneurism as high as 70 or 80 per cent., while Virchow, on the other hand, denies that any such connection has been demonstrated, inasmuch as amyloid changes are almost never found at autopsies on such patients, whereas they are frequent in syphilitic subjects. By way of treatment, Schmidt recommends potassium iodide in doses of 3 to 5 grammes daily, the sodium and still more the ammonium salts being substituted in prolonged cases if the general health should deteriorate. The diet-treatment introduced by Bellingham and Tufnell is referred to in favourable terms, and mention is made, though not from the writer's experience, of the effect of calcium chloride, carbon dioxide, and gelatine in increasing the coagulability of the blood. Schmidt himself seems to place most reliance on Tufnell's diet, with its necessary complement—absolute rest in bed. Eight cases of cure are reported. (From abstract in Glasgow Medical Journal, March, 1900.)

AORTIC DISEASE, DIGITALIS IN.

(From Dr. Reginald C. Peacocke's paper). I think the pulse is our best guide in giving digitalis in cases of doubt ; in the first place, if the pulse be from 60 to 70 digitalis is not at all suitable, while on the other hand many cases of aortic incompetence with a frequent pulse which can be slowed to about 70 are benefited by digitalis. There are, however, some cases with frequent pulse-rate—I particularly remember one, a man about thirty, with history of rheumatic fever, with a double aortic murmur and all the signs of failing compensation—in which the pulse is not influenced for good by digitalis, and in these cases there is often, I think, other evidence of acute changes proceeding in the endocardium. Another point of importance, determined by a careful study of the pulse, is the presence or absence of arterial spasm ; it is readily recognised in the radial artery by the firmness of its wall, and this is quite appreciable notwithstanding the collapsing character of the blood-wave so noticeable in aortic regurgitation. The presence of this spasm is a contra-indication to the use of digitalis, which will be found to be, if not hurtful, at all events, useless. In actual experience it is very difficult to say whether a case of cardiac distress, due to dilatation and failing hypertrophy sequential to aortic disease, will be benefited by digitalis or not ; the scientific fact that it prolongs diastole, which is the time that the secondary ill effects are produced when the aortic valve is leaking, is certainly not one to be lightly lost sight of, and in consequence of this fact I always prefer to try some other remedy first (usually nitroglycerine), and yet I can truthfully say that I have seen more cases of this disease in which digitalis has done good than cases in which it has failed to do good. (Dublin Journal of Medical Science, 1900, p. 260.)

BRADYCARDIA.

We have (1) Physiological bradycardia, (2) idiopathic bradycardia, (3) symptomatic bradycardia. Physiological bradycardia includes those cases due to physiological conditions only. This class is fairly well agreed to by all writers on the subject. Idiopathic bradycardia may embrace those cases of persistent slow pulse usually occurring in advanced life and more commonly in the male sex, accompanied by the usual bradycardial symptoms, but rarely attended by any discoverable disease which is the cause; the termination is usually fatal, though cases have been known to last for years without seriously affecting health. To symptomatic bradycardia belong those cases in which the pulse is symptomatic of some usually apparent condition, ordinarily of temporary duration, but it may include cases terminating fatally from injury, sunstroke, poisoning, and certain other serious conditions. (From Dr. Richard F. Chase's paper in the Boston Medical and Surgical Journal, February 5, 1900.)

CARDIAC DISEASES IN CHILDREN.

(From Dr. John Zahorsky's paper). Pain in the præcordial region is not uncommon in heart disease in childhood, and it may occur when no evidence exists that the heart is affected. Pains in the epigastrium are also encountered in endocarditis. Rarely agonising pain and anxiety are present, resembling angina pectoris. A pericarditis with effusion can give rise to a diagnosis of tuberculosis, since the distended pericardium causes dulness on percussion posteriorly, and the compression of the lung produces a condition that stimulates consolidation. The sign of Pins—the disappearance of signs of consolidation when the patient is put in the knee-chest position—is valuable to make the differential diagnosis. In many cases it is exceedingly difficult to determine whether a given murmur is due to anæmia or to an organic change. We adopt the rule to doubt the existence of an accidental murmur unless marked anæmia is present. Malnutrition in young children frequently depends on chronic valvular disease. In all forms of malnutrition the heart should be repeatedly examined as to its outline and activity. Various erythematous eruptions are frequently associated with disease of the heart. The purpuric spots of malignant endocarditis are also instances of skin lesions. Bradycardia in infants and children is occasionally observed. Irregular pulse is not infrequent even in apparently healthy infants. A slow, irregular pulse accompanies migrainous attacks. In severe mitral disease the excessive breadth of the base of the heart is readily made out, and indicates hypertrophy and dilatation of the left auricle. This is a valuable sign in children, and is usually overlooked in physical examination. I wish to take this occasion to urge the more extended use of auscultatory percussion, for with this method the outlines of all the viscera of children are very readily and accurately defined. (New York Medical Journal, February 10, 1900.)

CARDIAC INFLAMMATION, ACUTE, IN CHILDREN, PROLONGED REST IN.

Holt (*Arch. Pediat.*, N.Y., December, 1899) considers that there are three reasons why cardiac inflammations are likely to be especially serious in young children : (1) Because of the frequency with which both endocardium and pericardium are involved; (2) on account of the great tendency to acute dilatation; and (3) because of the liability of the attacks to be complicated with pneumonia. The cardiac muscle in young children has not the same resistance which it attains in adult life, and, as a consequence, under the strain of inflammation, dilatation comes on very readily and progresses rapidly. The danger of dilatation is increased in cases complicated with pericarditis. It is largely due to dilatation that so many cases succumb during the acute attack, and it is usually owing to this cause that cardiac failure, with dropsy, so frequently follows within a few months of the primary attack. The writer is of opinion that if we would minimise the injurious effects of endo- and pericarditis, we must secure to those patients as nearly absolute rest as possible, and not simply for a period of two or three weeks after the acute symptoms have subsided, but for as many months. With children it becomes an absolute impossibility to control or regulate the amount of exertion when once they are allowed out of bed. With them, therefore, if rest is to be secured at all, it can be accomplished only by strict confinement to bed and in a recumbent position. This must be continued long enough for the heart to regain its tone, and for a re-adjustment of the circulation to take place. (Edinburgh Medical Journal, April, 1900.)

DIGITALIS.

The following are Dr. W. H. Porter's conclusions :—(1) The chemical composition of digitalis is complex, some of its active principles antagonising others; (2) the various preparations of digitalis differ widely in their composition and action; (3) the so-called cumulative action of digitalis is due to its contracting the arterioles and shutting off nutrition; (4) it is both a useful and a dangerous remedy, and has a very limited range of usefulness; (5) it is of use only in lesions of the mitral valve, and then only for a short time, and should be discontinued as soon as these have been overcome; (6) it is of value as a diuretic only when there are low arterial tension and engorgement of the kidney; (7) digitalis decreases the excretory action of the normal kidney and impairs its nutritive activity. (Medical Record, May 12, 1900.)

DIPHTHERIA, THE HEART IN.

Dr. Henry D. Chapin said that the heavy mortality from diphtheria in severe types was accompanied by failure of the heart, and death ensued from this cause. Rapid failure of the heart was especially seen in the septic type of diphtheria. At the Willard Parker Hospital it was found that the septic type of the disease acted as a powerful depressor of the heart; of course, here were present the mixed infection, the Klebs-Loeffler bacilli, the streptococci, and other germs, which combined their toxins with the original toxins. In these instances when the heart began to fail it rarely recovered itself; the pulsation was rapid and feeble, and the patient developed the type of great prostration, with pallor and finally stupor and death. The speaker referred to the grave significance of vomiting; if vomiting ensued with a weak pulse death usually followed; this vomiting might precede or follow failure of the heart. This was not the vomiting that accompanied over-feeding of the patient. Another phenomenon referred to was the distinct slowing of the pulse, which was regarded as of grave significance; this slowing of the pulse might come on before or after great rapidity. The care of these cases consisted in insisting upon the recumbent position. Dr. Chapin stated that there seemed to be a direct ratio between the amount and character of the local inflammation and exudation and the severity of the constitutional symptoms, especially the heart. Whenever we found that the character of the pulse was poor, with evidences of prostration, pallor, vomiting, and stupor, the condition of the heart must give grave solicitude; but when there were the same physical signs without prostration, the significance was not so grave. The treatment consisted of whisky, strychnine, and nitro-glycerine. In cases of slow pulse strychnine in large doses apparently had no effect whatever; it was given hypodermatically. Nothing seemed to steady the heart in these grave cases. One therapeutic agent used at the Willard Parker Hospital was morphine in certain cases. In non-narcotic doses it was a powerful heart stimulant. Children were hard to keep quiet; heart failure sometimes followed when a child simply sat up in bed; the children should be kept quiet, and it could be done with morphine administered hypodermatically. This was most efficient. A child of one or two years of age could stand gr. 1/16 to 1/14 of morphine hypodermatically. (From Dr. Chapin's remarks in the Medical Record, May 19, 1900.)

INFLUENZA AND ENDOCARDITIS.

Jehle (*Wien. Med. Blät.*, December 21, 1899) reported several cases of endocarditis in which he found influenza bacilli. Heretofore these bacilli have been found present in the kidney, in the spleen, in meningeal fluids and exudates, not to mention the lungs and pluræ, in cases of pericarditis. In the cases mentioned the author described them as existing in exuberant growths on the aortic flaps in endocarditis. He obtained pure cultures of the bacillus from one case; in another the bacilli were associated with staphylococci. In one of the cases no disease of the lung could be demonstrated. Jehle further stated that these germs could make their way through the body not only in the lymph-channels, but also in the blood-vessels. (Medical News, January 13, 1900.)

MITRAL DISEASE, PULSATION OF PAROTIDS IN.

Pauli draws attention to a very unusual symptom in a case of mitral insufficiency. Owing to the intense congestion, pulsation could not be observed in the veins over the liver and behind both ears. The latter were so swollen that the patient had every appearance of mumps. The pulsations were synchronous with those of the heart. The phenomenon disappeared under the administration of digitalis, but soon returned on its withdrawal. It must be understood that tricuspid insufficiency also existed which could be brought out with these experiments. The blood could be pressed from one side of the parotid to the other. Pauli is of opinion that there are a number of veins in the glands that are easily distended. He confesses that he has not hitherto seen this symptom described. (Medical Press and Circular, June 13, 1900.)

MURMURS, CARDIAC FUNCTIONAL.

Dr. A. Jacobi says that functional murmurs are described as soft and low, short or long, not always blowing, and are frequently combined with, or the terminations of, a more or less normal heart-sound. In almost every instance they are systolic; in the adult they are mostly aortic, and then audible in the carotid; in the child they are more frequently found over the pulmonary or over the pulmonary and mitral regions. In regard to the locality and extent of their audibility there have been many differences of opinion ; still there appears to be unanimity in regard to their inaudibility posteriorly in almost every case. A functional murmur may persist weeks and even months, but it has not the uniform quality of an organic murmur. It is more or less soft, or loud, or prolonged. Many disappear quite rapidly, or, after having vanished, return. In this respect they differ widely from organic murmurs, which are more persistent as far as time and character are concerned. It should, however, not be forgotten that organic valvular murmurs may disappear either through recovery from endocarditis or through the establishment of compensation. But in these cases they diminish in loudness and duration very gradually only. Nor should it be overlooked that an increased frequency of the pulse, with its frequent and insufficient contraction of the heart muscle, and thin blood-vessels, and shortened valve excursion, conceals a murmur which was present when the pulse was slow, or which returns when a cardiac stimulant reduces the number of heart beats. (From abstract in Pediatrics, February 1, 1900.)

MYOCARDITIS IN CHILDHOOD.

(By Dr. Henry Koplik.) If we cannot make a positive diagnosis, we may suspect in a great many cases the presence of myocarditic changes in the face of certain symptoms. If the fatal cases have baffled our methods of recognition, we have a large number left in which certain symptoms of cardiac weakness should put us on our guard. If, in the course of an infectious disease, we have attacks of faintness, pallor, vomiting, disturbed and very irregular heart action, a persistent distortion of the respiration and pulse ratio as in adherent pericardium, it is certainly significant, especially if these attacks have a tendency to recur. If examination of the heart shows extreme weakness of the apex beat, weakness of the first sound, or disappearance of its muscular quality, greater intensity of the second sound at the apex, with intensification of the second sound at the pulmonic orifice, we certainly in these have danger signals of greatest moment. If, in addition, as in pertussis, we have other signs of cardiac insufficiency, such as a slight systolic blow at the apex, œdema of the face and extremities, pallor and cyanosis, disinclination to exertion, constant drowsiness, it would be certainly narrow, in view of our pathological and experimental knowledge, not to entertain the possible existence of serious degenerative changes in the heart muscle. (Medical News, March 31, 1900.)

PERICARDITIS, THE FRICTION SOUND IN.

Dr. Graham Steell (*British Medical Journal*, January 27, 1900) says that a friction rub is almost invariably present, usually of a to-and-fro character, but sometimes almost continuous or with a triple rhythm, whilst in character it may be sometimes fine and soft, at others loud, harsh, and rough. It may often be increased by pressure with the stethoscope, and is seldom conducted much beyond the pericardial region. When fully developed the friction sound will completely cover the cardiac sounds, when less so the sounds may be heard along with the friction, and it may then be noted that the friction rubs bear no definite relation to the cardiac sounds, seeming to occur independently of them, and thus differing markedly from endocardial murmurs. Friction is usually detected first at the base of the heart, but it is apt to be specially distinct over the small area where the heart is uncovered by the lung. There are two conditions in which sounds simulating pericardial friction may be met with: Pleuritic friction sounds may take on a cardiac rhythm in the neighbourhood of the heart, and a double aortic murmur may resemble somewhat a to-and-fro pericardial rub; but the diminution or disappearance of the former over the "uncovered" area of the heart, and the well-marked signs of aortic disease in the latter, are usually sufficiently conclusive. (From Dr. C. H. Melland's abstract in the Medical Chronicle, March, 1900.)

RHEUMATISM, TREATMENT OF DILATED HEART IN.

In the first place, the treatment by the salicylates should be continued, and even the frequency of administration of the doses should be increased or be as in the early stages of the treatment of acute rheumatism. The icebag to the præcordium may also be applied or re-applied. In fact, in these points the treatment should be as for rheumatic pericarditis. It must, however, be remembered that on many occasions the case may put on a very grave aspect, and the patient may be in immediate peril. In such case I am emboldened to say that I have never seen any good results from the administration of digitalis (or digitalin), and I think I may say from experience of the past that I have sometimes seen much to regret from its employment. Sir T. Lauder Brunton and Dr. Cash have shown that digitalis does not manifest its usual good effects upon the heart muscle when there are conditions of pyrexia. My experience, from a clinical point of view, confirms this statement So also, according to my own observations, the drug fails to exercise its tonic power on the heart muscle (although it may induce vomiting and other toxic symptoms) when the structures are infiltrated with morbid exudations. Failing cardiac power is best treated by the frequent administration of ammonia and similar diffusible stimulants in small doses with camphor water, or by musk in from three to five-grain doses, or tincture of sumbul in twenty-minim doses in camphor water, or by hypodermic injection of 1/50 or 1/30 of a grain of strychnine (sulphate, hydrochloride, or nitrate). I have had considerable evidence to show that the employment of the continuous galvanic current in the areas of the vagi may be a valuable agency in the treatment of the rheumatic heart in its more severe manifestations. For instance, in a case of extreme severity in which I observed recurring enlargements of heart and extremely critical symptoms, the constant galvanic current from eight cells was applied to the course of each vagus nerve for six minutes three times daily. (From Dr. Sansom's paper in The Lancet, March 31, 1900.)

TRICUSPID AND MITRAL STENOSIS WITH ADHERENT PERICARDIUM.

[Dr. T. L. Chadbourne reports a case in full, and makes the following remarks:] Uncomplicated tricuspid stenosis is rare; it usually occurs in combination with lesions of one or more of the other cardiac orifices, most commonly the mitral. In 114 cases collected and analysed by Leudet, simple tricuspid stenosis was present in 11; and it was met with in one of the 14 new cases described by Ashton and Stewart in their résumé. In point of frequency, after combined tricuspid and mitral stenosis, comes the association of tricuspid, mitral, and aortic stenosis. Articular rheumatism is the most common clinical antecedent in this class of cases, and considering the frequency with which this disease is accompanied by both endocardial and pericardial inflammation, it seems strange that the association of an obliterative pericarditis with the valvular changes does not appear more frequently than the available records show. In 86 cases of tricuspid stenosis briefly noted by Steele, the pericardium was recorded as adherent in 7; and in the 12 original examples with autopsy, making the basis for his work on "Adherent Pericardium," Broadbent found tricuspid stenosis but once. Besides these more exhaustive summaries, isolated cases of simple or combined tricuspid stenosis have been since contributed by Dock, Kassem-Beck, Steele, McCarty, Packard, and others. In one of his two cases Kassem-Beck found adherent pericardium. (From the American Journal of Medical Science, March, 1900.)

Affections of the Respiratory System.

BRONCHITIS, SENILE.

Of the drug remedies I would place strychnine and ammonium carbonate in the first rank. In acute exacerbations of chronic bronchitis ammonium carbonate, in five or ten-grain doses, given in two or three ounces of milk, not only liquifies secretion, but also stimulates the heart, stimulates the bronchial muscles, and thus relieves venous congestion and dyspnœa. As a rule, its action is more energetic, as Fothergill pointed out many years ago, when the skin is moist. The only disadvantage is that, after a week or more, it is apt to disarrange the stomach ; but that period is longer than most patients require its use. For chronic bronchitis and convalescence from the acute form, strychnine sulphate, in from one-fortieth to one-twentieth of a grain, every three to six hours, not only does quite as much as the ammonium salt, but, in addition, is a more powerful stimulant to the right heart, as was shown years ago. To disinfect the expectoration, creosote carbonate, in twenty-drop doses, given in two ounces of sherry, repeated every four hours until purulency disappears, is effective. Ordinary creosote should never be given to the aged, because of its irritant effect on the kidneys. With copious secretion and difficult expectoration this is the drug of choice, frequently preventing the low fever from absorption of putrid material, which so often occurs. In this connection I would most strongly condemn the use of opium, or any of its alkaloids, which is directly responsible for either speedy death from asphyxia (simply drowning the patient in his own secretion), or more gradually in producing this absorption, to which allusion has been made. Opium relieves cough by rendering the patient unconscious of its cause, and lulls the physician into a feeling of false security. Naturally, associated conditions, as gout, cardiac or renal disease, should receive attention. Of physical measures, massage yields the most brilliant results. Systematic general massage, especial attention being paid to the chest, will increase chest expansion, improve nutrition, and not only facilitate expectoration, but diminish its formation. A warm, dry atmosphere is essential. (From Dr. Wilcox's paper in the American Journal of Medical Science, May, 1900.)

EMPYEMA IN INFANTS.

The following are Dr. D. Bovaird's conclusions :—(1) Empyema is not uncommon in the first two years of life, and even in the early months. Of the 69 fatal cases on our records, 11 occurred in children under six months of age, 40 occurred in children between six months and one year, and 18 occurred in children between one and two years. The youngest patient was two months and nineteen days old. (2) The mortality during this period is very high. (3) Empyema in infants is very frequently mistaken for pneumonia. (4) The rational signs are the same as those of pneumonia in children. (5) The physical signs cannot be relied upon for diagnosis. (6) Exploration is called for in every case in which, with the rational signs of pulmonary disease, we find marked dulness or flatness over any part of the lung, especially if accompanied by diminution or absence of voice and breathing or displacement of the heart. (7) That exploration should be made with a large needle, and repeated if necessary. None of our cases have ever shown harm from the use of the needle: many have been missed by reason of failure to use it. (8) Practically all pleural effusions in infancy are either purulent from the beginning or soon become so. (9) When pus is found drainage is called for. Incision in an intercostal space, with the insertion of drainage tubes, answers this end thoroughly. (Medical News, December 23, 1899.)

EMPYEMA, THE TREATMENT OF PNEUMOCOCCUS.

O. Vierordt (*Deut. Arch. f. klin. Med.*, 1899, Bd. lxiv.) speaks of the impression, more or less prevalent in the profession, that empyema from infection with the pneumococcus runs a more benign course than that due to other micro-organisms. In 1897 he met with 16 cases of the disease, of whom five were surely due to the pneumococcus. Three of these died from extraordinarily severe complications. The following year he also treated 16 cases, with two deaths. Ten were due to the pneumococcus, and one died. In other cases an empyema so small as to be difficult of diagnosis reduced the patient to a critical condition, which improved after the evacuation of at times a few cubic centimetres of pus. These observations, he says, show exclusively the extreme variations in the malignity of the affection, which is little, if at all, dependent on the amount of pus. They further show how much risk one may run, in spite of their undoubtedly frequently benign character, and irrespective of the amount of the exudate, in delaying operation. At least, so far as children are concerned, and probably also for older persons, there is no difference, from the standpoint of treatment, between the metapneumonic and other forms of empyema. A prompt and complete evacuation is necessary. (Boston Medical and Surgical Journal, March 15, 1900.)

LARYNX, TUBERCULOSIS OF THE.

Dr. O. Chiari (*Berl. klin. Woch.*, 1899, Nos. 45, 46, and 47) quotes Schech as saying that while by far the greater number of cases are secondary, still a small per cent. is undoubtedly primary in its origin. This view is opposed by many writers, and the author himself says that while primary laryngeal tuberculosis is possible, still it is very difficult to prove its existence beyond cavil. Tuberculosis of the larynx appears in the form of thickenings, infiltrations, tumour-like structures, and ulcerations. The course is very variable; it may exist for years without much change, and it may lead to widespread destruction of tissue in a short time. The sources of infection seem to be inspired air, sputum from tuberculous lungs and transportation by the blood and lymph. Krieg maintains that in most cases the larynx becomes affected through the lymphatics passing to it from the lungs, and cites the numerous cases where a unilateral lung trouble is accompanied by an affection of the corresponding side of the larynx. His own statistics give a far higher per cent. of cases where this condition prevails than do the statistics of Magenau. The author, however, is of the opinion that the most frequent form of infection is directly from the sputum. (From abstract in Laryngoscope, April, 1900.)

PHTHISIS AND OBESITY.

Under this title B. Martin (*Le Nord Médical*, January 15, 1900) directs attention to the victims of tuberculosis whose pulmonary lesions are grave and extensive, and who yet remain stout and in good condition. Many of these owe their general health to the influence which an arthritic constitution exercises on the progress of pulmonary tuberculosis. Some have presented in youth the stigmata of scrofula; and there is no doubt that the scrofulous diathesis plays some part in the production of these types. Others owe their robust condition to good digestion, rest, fresh air, and methodical and intelligent superalimentation. In all, even with cavities, the prognosis is not unfavourable for a prolonged course to their disease, and comparative freedom from disagreeable symptoms. They retain a stout, hearty appearance, eat and sleep well, have neither diarrhœa, fever, nor night sweats, are able to attend to business, and yet have the most extensive lesions in their lungs. (Medical News, February 10, 1900.)

PHTHISIS IN THE INSANE, ISOLATION HOSPITALS FOR.

In the Lancaster County Asylum, about ten years ago, owing to the numerous deaths from phthisis, two wards were set apart for all such cases. This was followed a few years later by the opening of a hospital, detached and self-contained, for females. In view of the attention the subject is now attracting, it may not be uninteresting to give a brief résumé of a three years' experience in what, so far as I am aware, is not only the first, but the only detached hospital in this country for the treatment of phthisis in the insane. Speaking generally, the procedure has been attended with good results, and such as to encourage hopes of greater success in the future. One most important gain has been the removal of an ever-prevalent source of danger from the rest of the community. (From Dr. Jas. F. Gemmel's paper in the Glasgow Medical Journal, March, 1900.)

PHTHISIS, MIXED INFECTION IN.

(From Dr. Lawrence F. Flick's paper.) Mixed infection, in which the pus-producing germs take part, is the most serious condition into which a tuberculous subject can fall, and offers the greatest difficulties to the therapeutist. With it come chills, fevers, sweats, distressing cough, and profuse expectoration. Its symptom-complex constitutes consumption. The one remedy which brings some comfort and encouragement in the struggle against this condition is creosote. Creosote in large, well-sustained doses will greatly reduce the suffering from consumption, and will conduce to recovery. Since I have learned to use creosote properly, I have rarely to resort to remedies for chills, fevers, sweats, and coughs. The best way to give creosote, as far as my experience and knowledge goes, is in large draughts of hot water. I think there is also some advantage in giving it some time before meals. The dose should be gradually run up to forty or fifty drops three times a day, and as the dose of creosote is increased the quantity of hot water should likewise be increased. With the maximum dose of creosote I usually give a pint of hot water. The water is a good diluent, and does not burden the digestive and excretory systems. (Therapeutic Gazette, January 15, 1900.) [Purity of the atmosphere, viz., abundant fresh air, is also looked upon as a means of not only preventing, but also combating mixed infection.—E.F.T.]

PHTHISIS, THE NOTIFICATION OF, IN MANCHESTER.

The report of the Medical Officer of Health for Manchester on the working of the system of voluntary notification of phthisis introduced in September, 1899, is interesting and instructive reading. The report shows that the total number of notifications received from September 11, 1899, to March 17 last was 826. Of these, 533 cases were notified between the former date and February 3, and 293 cases between February 5 and March 17. Since February 5 more than half the notifications have been sent by medical men in private practice, and that the number of houses visited was 680. So far no objection has been made to these visits either by the patients or by their medical attendants, but some of the patients have expressed their satisfaction that more active measures are being taken by the Corporation to combat the disease. Recently it has been found impossible to make the visits keep pace with the notifications, and there are 146 cases still waiting to be visited. The original scheme contemplated the appointment of three medical inspectors, and another is now about to be selected. Obviously, if such a scheme is to yield practical results, it must entail an enormous amount of labour, *inter alia* in regard to the bacteriological result of milk and other articles of food. Every credit is due to the municipality for having had the intelligence and the courage to set an example in this direction, an example which will, sooner or later, be extensively followed. (A leaderette in the Medical Press and Circular, April 11, 1900.)

PHTHISIS, THE RESULTS OF THE OPEN-AIR TREATMENT OF.

Elkan (*Deutsche Medizinal Zeitung*, September 25, 1899, p. 865) gives the results of the treatment of consumptives in the Malchow Sanatorium for men, and that of Blankenfelde for women ; 5,581 patients stayed longer than fourteen days, the average time being 49 days. The average increase in weight was 4·8 kilogrammes. He divides the patients into classes :—Class A, consisting of those in whom no bacilli were found, the only physical signs being those of an apical catarrh ; 1,245 belonged to this class, and of these 876 greatly improved, the lung signs disappearing ; in 359 the physical signs persisted, but the patients were able to go back to work ; and in 40 no improvement occurred ; in all these last some complication was present. Class B, including those patients in whose sputum bacilli were discovered, and in whom the signs of the disease were well marked, numbered 2,519 ; of these 1,047 were much improved, 1,171 were improved, 295 showed no change or were worse, and six died. In Class C, including those cases in which either laryngeal phthisis or intestinal tuberculosis had been present before admission, there are 659 patients, and of them 198 are recorded as having improved greatly, 310 as having improved, 147 as not having improved, and four as having died. Class D comprised 729 cases in whom the fever was persistent ; of these, 106 greatly improved, 306 partially, 294 did not improve, and 23 died. From the above figures the author points out how essential it is that only early cases should be admitted to sanatoria. (Quarterly Medical Journal, February, 1900.)

PHTHISIS, X-RAY EXAMINATION IN.

Judging from the cases reported, I am forced to conclude that this method would greatly help in the early recognition of tubercular disease of the lungs, and that a fluoroscopic examination should be made of any patient where there is the least doubt of the diagnosis. For example, in the case in which the physical signs were not marked enough to make the diagnosis positive, with the help of the x-ray the question was settled. Thus is recognised a stage in which proper treatment might be expected to produce a cure. In regard to the diagnosis of cavities, with this method an idea of the size of the cavity can be obtained, information which all other methods fail to positively give. Again, it is possible for physical signs of a cavity to be wanting, in which event the fluoroscope might reveal it. (From Drs. Tyson and Newcomet's paper in the Journal of the American Medical Association, January 13, 1900.)

PLEURAL FRICTION SOUND.

The following is one of the manœuvres used by Dr. Abrams (*Philadelphia Med. Journ.*, February 17, 1900) for eliciting this sound :—The Arm Manœuvre : The patient suspends respiration after full inspiration, after ordinary breathing, or at the end of expiration. Then the arm on the affected side is raised while in extension, either by the patient, if intelligent, or otherwise by the physician, till it reaches the side of the head. During the time the arm excursions are made the suspected area is auscultated. By the arm manœuvre the movement of the parietal against the visceral pleura is opposite in direction to that occurring during the respiratory act, and for this reason the pleuritic sound may often be elicited after the sound has been exhausted in the ordinary act of breathing. In obtaining the friction sound after this method, care must be exercised lest the patient breathe. The sound thus obtained can only emanate from the pleura, and this fact alone establishes its value in differential diagnosis. (From Dr. F. Villy's abstract in the Medical Chronicle, May, 1900.)

PNEUMONIA, ACUTE.

Dr. Nathan Raw read a paper before the Liverpool Medical Institution. It was based on an observation of 1,047 cases during a period of twelve years. The general death-rate of the whole of the cases was 23·4 per cent. During the last two-and-a-half years 317 cases of pneumonia had been admitted into Mill Road Infirmary (including, of course, all forms of pneumonia, and those dying shortly after admission) with a total death-rate of 34 per cent. With regard to the pathology of the disease, there could be no doubt it was caused by a specific microorganism, the diplococcus of Frænkel, influenced to a very great extent by rapid changes in climate, and a low resisting power in the individual. This low resisting power he had noticed most frequently in the chronic alcoholic, who rarely recovered from a bad attack of pneumonia. Dr. Raw reviewed at length the various forms of treatment which had been used in the past and were being employed at present, and gave it as his opinion that no specific form of treatment influenced the progress of the disease or in any way cut it short. He was of opinion that the treatment of the future would be antitoxic, the anti-pneumotoxia being either procured by removing serum from a patient who had just recovered from pneumonia or experimentally from immune animals. (Medical Press and Circular, February 21, 1900.)

PNEUMONIA, SERUM TREATMENT OF.

(From Dr. A. Fanoni's paper.) In New York I have used Pane's serum with marked success in my private practice in 18 cases of pneumonia, four of which were in children under the age of three years. The first six cases were reported in a former paper. Of my 18 cases only one died. This patient, whom I saw on the ninth day of his illness, and who was in the pre-agonal stage, was given 40 cc. of Pane's antipneumonic serum hypodermatically at one dose, without much hope of saving his life. In the four cases of pneumonia in children which I treated with the serum there was no doubt as to the efficiency of Pane's remedy. All these children recovered after a few days' treatment. Of the last two cases, one seen by me with Dr. Luzzato, was 18 months old, and received four injections of Pane's serum. In the other, a child of two years, that I saw with Dr. Corsiglia, three injections of the serum were sufficient to establish a cure. This serum, when injected in cases of pneumonia early enough, in sufficient quantity (40 cc. of No. 2 daily), and if not deteriorated by age, quickly produces a lowering of the temperature, and an improvement in the subjective comfort of the patient, as well as an amelioration of all the other symptoms. Resolution also tends to take place more rapidly. (Pediatrics, May 15, 1900.)

PNEUMOTHORAX, DIAGNOSIS OF.

[Dr. A. Béclère read a very important paper before the Société Médicale des Hôpitaux of Paris.] The most important and the earliest sign of pneumothorax with a valvular opening is the presence of intrapleural pressure greater than that of the atmosphere. Dr. Béclère has invented a very simple instrument which enables the intrapleural pressure to be measured, and a valvular pneumothorax to be diagnosed with certainty and at the earliest period, and also to be treated in the best way. It consists of a hollow needle, such as is used for hypodermic injections, which is connected by an indiarubber tube with a glass tube about six inches long and one-fifth of an inch in bore. The glass tube is half plunged into a vessel containing water. The instrument having been sterilised, and the usual antiseptic precautions having been taken, the needle is inserted (preferably obliquely) in an intercostal space. If the intrapleural pressure exceeds the atmospheric pressure gas will pass through the apparatus and escape through the water in bubbles, until the intrapleural pressure becomes equal to the atmospheric pressure. By this instrument also the patency of pleural perforation in a case of a pneumothorax may be ascertained. When the patient coughs gas will be driven through the apparatus and the water in the tube will be depressed below the level of that in the vessel. If, when he has finished coughing the column rises again to the level of the water in the vessel, the air driven out of the pleural cavity must have been replaced and the perforation must be patent. If, on the contrary, the level in the tubes rises above that in the vessel, the air has not been replaced and the perforation is closed. (From report in The Lancet, May 19, 1900.)

PNEUMOTHORAX, TUBERCULOUS.

Dr. Drarche (*Wien. klin. Woch.*, December 21, 1899) gives an account of 198 cases of pneumothorax following pulmonary tuberculosis, which have occurred in his own hospital experience. The total case incidence was 1.93 per cent. among 10,212 cases of phthisis. In only ten cases was the lesion circumscribed. In two cases the cavity was divided completely by adhesions. The common occurrences preceding the discovery of the lesion were cough, bodily exertion, or other influences by which the lungs may be powerfully affected so as to cause rupture of a cavity. The rupture occurred 133 times in one or other upper lobe; 33 times in a lower lobe, and eight times in the middle lobe. More than one rupture was only found 17 times. In most of the cases the vomica concerned was quite small. Air often remains in the pleural cavity for some time without causing much inflammation, but this depends to a great extent on what infective material it carries with it. In some cases fluid in a pneumothorax remains clear for months, in others it becomes puriform in twenty-four hours. In some cases the exudation may seal the perforation, but more often this is prevented by the unhealthy nature of the tissues concerned, aided by the constant movement of inspired air through the rupture. (From Dr. F. Villy's abstract in the Medical Chronicle, April, 1900.)

RHINITIS, ATROPHIC, CITRIC ACID IN.

The following are Dr. Lewis S. Somers's conclusions :—(1) The drug is of great value in preventing the fœtid odour of atrophic rhinitis. (2) The successful action depends upon its direct application to the diseased tissues ; for this reason the removal of all foreign material is absolutely necessary. (3) After its use the ozæna usually remains absent from one to two days, and in exceptional cases longer, depending upon the extent and severity of the morbid process. (4) It exercises no direct action upon the morbid tissue in the direction of restoration to its normal functions. (5) Unless used at more or less regular intervals its action is but transient, and the ozæna speedily becomes prominent again. (6) To a moderate extent it inhibits scab formation. (7) Finally, citric acid is an important addition to the therapy of fœtid rhinitis by enabling the rhinologist to successfully combat the chief and often only complaint of the patient—ozæna. (Therapeutic Gazette, March 15, 1900.)

SANATORIA, PUBLIC, FOR CONSUMPTIVES.

The success which has attended the hygienic treatment of consumptives in sanatoria justifies the foundation of such institutions for the large number of sufferers from tuberculous disease amongst the poor, whether by private philanthropy or by public authorities. As a means of preventing tuberculosis sanatoria probably furnish less valuable aid than would institutions for the reception of advanced and incurable cases of consumption. Nevertheless the gain to the community by the cure of early cases of consumption amongst the working population is considerable, and would *pro tanto* diminish the number of advanced cases, which are so dangerous to others. Private sanatoria are primarily established for the benefit of the individual sufferer, and can after all provide for a small number of the more wealthy class. Amongst the richer classes the danger to the community from the individual consumptive is not great, for he generally puts himself under medical care, and his means allow of the carrying out of such precautionary measures as his medical adviser suggests. (From a leading article in the British Medical Journal, April 28, 1900.)

TUBERCLE BACILLUS, THE STAINING OF.

Pakes (*Brit. Med. Jour.*, January 27, 1900) says that several methods of staining have been suggested in order to differentiate the smegma bacillus from that of tubercle. The simplest is merely a modification of the Ziehl-Neelsen's method. (1) The material (whether it is sputum, pus, milk, or the centrifugalised deposit of the urine) should be spread very carefully, so that a not too thin but even film is obtained. (2) The film is then dried in the air, and passed three times through the flame of a Bunsen burner. (3) The preparation is stained for five minutes in hot (60 deg. C.) carbon fuchsin, and washed well in water. (4) Wash in absolute alcohol until every trace of stain which can be removed from the coverslip has been removed, and wash in water. (5) Immerse in 25 per cent. sulphuric acid for about five or six seconds, and again wash in water. (6) Counter-stain for about three seconds in carbol methylene blue, wash, dry, and mount. (Practitioner, March, 1900.)

Affections of the Digestive System.

APPENDICITIS SIMULATED.

M. Sander (*Deut. Med. Woch.*, September 2, 1899) reports two cases bearing upon this subject. A man, aged 23 years, presented the clinical picture of intestinal occlusion, and a young woman that of perforating peritonitis. Each was operated on, and everything found normal, the first undergoing operation twice and the second four times, until it was suggested to tattoo "Beware" on their abdomens. Sander thinks that such mistakes could be avoided by more careful search for hysteric antecedents. In the observations reported, the lack of proportion between the pulse and the fever, and also between the general appearance and the severe symptoms, the rapid changes in the symptoms, their severity in the presence of the physician and subsidence in his absence, combined with evidences of hysteria, should have warned against intervention. He also notes the "elective" character of the vomiting, and that meteorism can be caused by voluntary swallowing of air. He classes hysteria as a form of degenerative psychosis with many points in common with the severer forms. Hospital treatment is directly injurious. The patient should be in a "closed establishment," and all his complaints systematically ignored and attention diverted, with general tonic treatment, suggestion, and faradisation later. (Abstract in Treatment, January 15, 1900.)

CARCINOMA OF STOMACH, LATENT.

As the result of a study of 150 consecutive cases of carcinoma of the stomach in the medical department of the Johns Hopkins Hospital, an interesting and instructive article appears in the *Philadelphia Med. Jour.*, February 3, 1900, by Osler and Thomas

McCrae. It deals with a group of cases in which the disease was unsuspected during life. The latent cases are most frequently met with in old persons, in whom the symptoms may be very slight, or absent, or they are mistaken for the ordinary dyspeptic complaints of the aged. There are three groups of cases of latent carcinoma of the stomach—(1) A very small one in general hospitals, a very large one in almshouses and asylums, comprising cases in which the symptoms are those of gradual enfeeblement without any indication of local disease. (2) Cases in which, with an absence of gastric symptoms, the lesions of associated disease seem sufficient to account for the condition. In this group were four of the authors' cases. (3) Cases in which the metastases completely mask the primary disease. In reviewing this interesting series of cases, and particularly in the study of the autopsy records, one is astonished to notice how extensive and widespread the disease may be with practically no symptoms. In three of the cases a very large part of the stomach was involved, in two the cardiac orifice, and in two the pylorus. In one instance the growth involved the œsophagus, and in one to a slight extent the duodenum. In three instances there was ulceration, and in five metastases were present. As there were no symptoms pointing to stomach disease in any of these cases, test-meals and other special diagnostic methods were not employed. It may be noted that in none of these cases, apparently, was there any actual pyloric obstruction. (From Dr. Hampson Simpson's abstract in Treatment, May, 1900.)

CARCINOMA OF THE STOMACH IN THE YOUNG.

Dr. W. Osler details five cases occurring in persons under 30 years. He speaks of certain symptoms in detail. Loss of appetite was considered by Brinton to be a marked symptom in young individuals. Mathieu holds a contrary view, and in his collected cases found that in one-half of the cases this symptom did not appear until the last four or five weeks of life. In a quarter of his cases the appetite was retained until death. He considers that this view of the supposed common absence of appetite in the young has contributed to errors in diagnosis. He suggests in explanation of the fact that appetite is so often retained that the mucous membrane is but little changed. In our series there was no loss of appetite in three, anorexia was present in two, and in one the point was not noted. As in cases at all ages, a certain number are free from pain throughout. In our series only one was free from pain. In the others it was fairly severe. Vomiting was also present in five of the cases. The patient in whom it was absent had also absence of pain. Tumour was present in five cases, in one of which it was only found at autopsy, the enlarged liver having covered it during life. Ascites was not present in any of this series. Among 27 cases collected by Mathieu it was present in five, of which four were thought to be cirrhosis. Fever was thought by Mathieu to be generally absent in the young. But three of our cases had fever, and a fourth gave a history of a feverish attack shortly before admission. Two of the conclusions of Mathieu may be quoted :—(1) Cancer of the stomach below the age of 30 years has generally a rapid progess in some months, and often ends suddenly by incidents more or less abrupt. (2) Early cancer is not latent—it is often overlooked. (New York Medical Journal, April 21, 1900.)

DIARRHŒA, THE COMMUNICABILITY OF.

It is hardly needful to point out the facilities for the spread of room infection that are afforded in the case of acute diarrhœa. In the first place, the malady is mainly one of infancy and childhood, when there is imperfect control over the evacuations. Infants and babies pass diarrhœal excreta and almost every part of the environment is liable to fæcal pollution. Then the diapers of infants used to catch the motions are washed in or near the house, and a fresh source of infection is thereby created. The hands of patients can hardly escape contamination any more than the hands of those who attend to the removal of dejecta and to the cleansing of soiled articles. Further, any person coming into an infected house would run a risk of special fæcal contamination from door-handles, furniture, and, indeed, from almost every single object with which any part of the visitor's body would come into contact. These statements leave out of consideration the chance of aerial infection by specifically charged particles of dried excreta blown about as dust. (From Dr. F. J. Waldo's paper in The Lancet, May 19, 1900.)

DYSPEPSIA, NERVOUS.

Boardman Reed (*Internat. Med. Mag.*, January, 1900) considers this to be a local condition of the same type as general neurasthenia. The term should be applied only to those gastric symptoms which cannot be traced to any organic lesion or to any well-known disorder of function. Any stomach disease may be mimicked, but in nervous dyspepsia the discomfort is, as a rule, limited to the digestive period, the patient feeling well while the stomach is empty. The dyspeptic symptoms have no definite relation to the kind of food ingested, but come on as readily after a simple meal as after an elaborate dinner. Among the intestinal symptoms are constipation, diarrhœa, membranous colitis, gaseous distension, and especially certain tender areas over the colon. The diagnosis is based on the exclusion of organic disease, with variability in the test-meal washings and the absence from them of excessive mucus. A depressed nervous condition must not mislead, as this often accompanies other gastric troubles. The treatment consists of rest, seclusion, gentle massage of abdomen, and electricity, for from four to eight weeks ; then healthy out-door exercise and diversion, with plenty of nutritive and tempting food. As a tonic sodium glycerophosphate with strychnine should be given ; and if the gastric juice is deficient, add hydrochloric acid and pepsin, or papain. Keep the bowels open by exercise and massage, aided, if necessary, by cascara or aloes, or, if the tendency is to hyperacidity, by calcined magnesia or sodium sulphate. (Medical News, February 17, 1900.)

ENTEROCLYSIS IN SUMMER DIARRHŒA.

It was at first thought that enteroclysis would be only applicable for those children not severely attacked, and so not collapsed, but experience of the beneficial effects it produces now warrants it in all cases ; in fact, the weaker the child, provided it is not moribund, the greater is the indication for enteroclysis. (Lockhart Gillespie, *A Manual of Modern Gastric Methods*, 1899, p. 141.) Before all things, it is necessary to remove the toxic matters in the intestines, and no surer or quicker way is obtainable than by washing out the large bowel. Not only is the intestine cleaned, but peristalsis is encouraged, and the warmth of the water stimulates the failing vitality, the fluid, as is well known, supplying fresh liquid to the circulation. It is claimed that cerebral thrombosis, due to the drain upon the blood, is prevented by this means. (From Dr. Bertram Roger's periscope in the Bristol Medico-Chirurgical Journal, December, 1899.)

GASTRO-ENTERITIS IN SOUTH AFRICA.

The chief symptom of gastro-enteritis met with here is acute diarrhœa, which is usually painless, but is sometimes attended with colic. In some cases, in addition to diarrhœa, there is severe vomiting. As a rule the temperature is not raised, but it may reach 103 deg. F., though this is never maintained for longer than a day at the most. The majority of cases recover in a couple of days, but diarrhœa may persist for a week or two. The best treatment is a dose of castor oil and laudanum, the diet being restricted to milk. Although more than one attack may occur in the same person, immunity is ultimately established. Exposure to chill is undoubtedly a predisposing cause, and the wearing of the cholera belt affords some protection. One can easily imagine that vasomotor changes in the intestine may favour infection with microbes or absorption of toxins. In some outbreaks--as, for instance, at Modder River, where the disease was so common as to go by the name of "Modders"—the materies morbi was probably conveyed by the drinking water. This was not always the case. There was reason to believe that the fresh meat which we received from Capetown was responsible for, at any rate, some of our cases. (From Dr. J. W. Washbourn's paper in the British Medical Journal, June 16, 1900.)

HEMORRHAGE, INTESTINAL, IN THE NEWLY-BORN.

Guttman, in the *Presse Médicale Belge*, January 14, 1900 (quoted in *Gazette des Hopitaux*, January 18, 1900), reports a case of severe intestinal hemorrhage, in which he succeeded in arresting the bleeding by means of enemata of a solution of gelatine. The bleeding point was low in the bowel, as the blood was bright red in colour. He dissolved three leaves of gelatine in a quarter of a litre of hot water. One-half of this solution he used as an enema, and the rest he administered per os in teaspoonful doses. The result was that the bleeding stopped, and the child only had one more bloody stool after the enema. On the following day the fæces were normal, and the child recovered. (Pediatrics, May 1, 1900.)

HÆMATEMESIS TREATED BY OPERATION.

Dr. G. E. Armstrong reports a further case treated by operation. After the patient, a woman, aged 46 years, had recovered from the immediate effects of the hemorrhage, I decided that my only chance of saving her life was to operate at once, as it was not at all likely that a vessel large enough to allow of the escape of so much blood would be closed by medicinal agents. Accordingly, after the intravenous injection of thirty-five ounces of sterilised salt solution, I made an incision in the median line and brought up the stomach into view. I was rather under the impression that the ulcer might be duodenal. I therefore made an incision through the anterior wall of the pylorus, thus exposing at once the upper end of the duodenum and lower end of the stomach. The duodenum was found normal in every respect, but on passing my finger into the stomach, I at once felt a deep, excavated, round ulcer about half an inch in diameter. On turning out this portion of the stomach the ulcer came readily into view. It was situated on the lesser curvature, about 2 in. from the pylorus. No large open vessel could be seen, but blood flowed freely from several points around the margin. The ulcer was excised, the incision continued into the first, and the opening closed as in a pyloroplasty (Heineke-Mikulicz). The woman is making a good recovery. It is now three weeks since the operation, and she is taking considerable quantities of food by the mouth without any pain or nausea; her bowels move regularly, and she is gaining in strength, weight, and colour. (Montreal Medical Journal, December, 1899.)

LIVER, DISEASES OF, IN YOUNG CHILDREN.

Dr. Rowland Godfrey Freeman (*Arch. of Pediatrics*, 1900, xvii., p. 81), in a paper on this subject, concludes as follows: (1) Descent of the liver down the right side of the abdomen, so that the right lobe reaches below the crest of the ilium, occurs not very rarely in infants, and particularly in those whose liver is enlarged. (2) Fatty liver occurs very frequently in the infants and children which die at the Foundling Hospital, or in about 41 per cent. of all cases. (3) The condition of nutrition of the child, as expressed by the absence of fat in general and wasting of tissue, apparently has no connection with the fatty condition of the liver, the condition of nutrition in the cases having fatty livers averaging about the same as in the whole number of cases. (4) Fatty liver occurs rarely in the following chronic wasting diseases: Marasmus, malnutrition, rachitis, and syphilis, unless such condition be complicated by an acute disease. (5) With tuberculosis fatty livers occur not more often than with other conditions. (6) Fatty livers occur most often with the acute infectious diseases and gastro-intestinal disorders. (7) The two cases of cirrhosis of the liver examined by the writer ran a comparatively acute course. The livers on section showed a marked hyperplasia of the so-called new-formed bile-ducts. (8) Focal necrosis of the liver may be a lesion of measles. (Pediatrics, April 15, 1900.)

LIVER, MALIGNANT NEOPLASMS OF.

We shall be safe in saying that the only malignant tumours of the liver which are ever likely to be considered as at all operable are some adenomata and a very few secondary carcinomatous deposits, with very rarely a primary carcinoma, in all of which a diagnosis of probability at least is made early. If the tumour is a secondary carcinoma, it is important that the secondary quality is not metastatic, but depends upon continuity of tissue. In the case of true metastasis there must have been wide dissemination of the infection, and deposits will not be limited to the immediate region of the primary mass, so that operative attack is obviously useless. Primary carcinoma of the liver is a rare disease, but may sometimes be amenable to operative treatment. (From leader in Medical Record, March 24, 1900.)

NEURASTHENIA, GASTRIC DERANGEMENTS IN.

Some functional derangements of the stomach are only types of neurasthenia, and belong, therefore, to the nervous affections. These are the cases which require forced feeding, or Weir-Mitchell's treatment. I allude to those cases in which there is pain after food, or persistent vomiting, with such other signs as enteroptosis. displacement of the kidney, &c., and which emaciate rapidly. Such cases require more than the ordinary amount of food. The electrical treatment and the massage are important aids to obtain a cure, yet in many cases all the details and accessories of Weir-Mitchell's treatment are not required, and we often gain our object by insisting upon bodily rest and the partaking of large quantities of milk, first alone and then in combination with carbo-hydrates and albuminous food. The skill and perseverance of the medical attendant is here often of the greatest value, for many believe or pretend that they cannot take milk, and their aversion to milk is often overcome if the medical man uses with tact his persuasive powers. (From Dr. Dreschfeld's paper in the Medical Chronicle, December, 1899.)

PERFORATION, OPERATIONS FOR TYPHOID.

Taylor (*Annals of Gynæcology and Pediatry*, January, 1900) reports five cases of operation for typhoid perforation. The first was operated upon after sharp abdominal pains, rigors, and vomiting, suggesting perforation. Death occurred in six or eight hours. The second case was operated on the fourth day after the accident; death ensued in eight or ten hours. The third patient was operated on twelve hours from the time symptoms suggested perforation and recovered. The fourth patient was operated on four hours from the onset of symptoms and died in about nine hours. The fifth patient was operated on twenty-four hours from the onset of symptoms and practically died on the table. In at least one of these cases the early symptoms of perforation were extremely obscure. The author states that less than 200 in all have been operated on, with still a very heavy mortality; but that nothing short of a moribund condition should warrant us in abandoning the case as hopeless. The key to success is an early operation. (Therapeutic Gazette, April 15, 1900.)

PERITONITIS, TUBERCULOUS.

There are four chief forms of tubercular peritonitis: (1) Adhesive; (2) suppurative; (3) tympanitic; (4) ascitic. In discussing tympanitic tubercular peritonitis, let me beg you to bear in mind that I am not speaking of tubercular peritonitis in general, but of this special form only. The onset is sometimes very sudden — instantaneous — with very severe gastro-intestinal symptoms. As an hypothesis, it has always seemed probable to me that a very sudden infection of the peritoneum takes place, as by the softening and sudden breaking down of a tuberculous gland; but this is a mere supposition. As to these gastro-intestinal symptoms, they are of three kinds: (i) Vomiting, repeated for one or two days; (ii) all the symptoms of obstruction of the bowels — *ileus*. These are very puzzling cases. (iii) By regular gastro-enteritis—all the symptoms of cholera. More often the onset is gradual; the abdomen gradually enlarges until it is very big. As to the occurrence of fever or not, sometimes there is fever, and I have seen cases where tympanites and fever were the only symptoms. The addition of fever does not help much in the diagnosis. As to indurations, these form one of the best means of diagnosis as to whether the disease is tubercular peritonitis or not. Sometimes they accompany the tympanites; then you know where you are. Sometimes there are no indurations, even after paracentesis for the ascites. Regarding the ascitic form: (*a*) A slight ascites sometimes occurs with the onset of tubercular peritonitis and disappears quickly, in a few weeks, followed by the occurrence of indurations. I have met with cases where the number of indurations was extraordinary, scores, or many scores, all over the abdomen. (*b*) Great ascites as the main symptom: The effusion is sometimes blood-stained, but this is a point of no importance. When the fluid is removed, spontaneously or by operation, indurations sometimes become palpable. It is a curious thing that this ascitic form is often associated with cirrhosis of the liver. *Treatment:* For the tympanitic form, nothing. For the ascitic form, simple puncture (which in this case led to no cure, though repeated twice), then incision; and if no cure then, I do not know what will cure it except time and patience; when, if the tubercle is limited to the peritoneum, the patient may get well, but if the lungs and other organs are affected the chances are small. (From Dr. Gee's paper in St. Bartholomew's Hospital Reports, May, 1900.)

PERITONITIS, TUBERCULOUS, OPERATION IN.

Wunderlich (*Archiv für Gyn.*, vol. 59, p. 216) says so many instances have been reported in which complete recovery has followed simple abdominal section that one is apt to lose sight of the failures which result from this method of treatment. These failures are numerous, however. For example, during the last eighteen months Wunderlich had opportunity to observe ten patients upon whom abdominal incision was made. Of these ten, seven were in no way benefited, and the process either continued undisturbed by the operation or the patient was directly injured by the same. In no instance was death directly due to the operation, but in one the patient died within six days. The cicatrix underwent tuberculous degeneration with the formation of a fæcal fistula. Altogether four patients died within three months in spite of the fact that two of them left the hospital in apparently perfect health. One patient who did not die suffered from a fæcal fistula which formed in the scar within two weeks of the operation. These instances are sufficient to show that one may not speak of a cure of abdominal tuberculosis until several years have elapsed. Examination of hundreds of reported cases showed the writer that a recovery after abdominal section is most likely to occur in the ascitic form of the disease. In this form the patients who lived after the operation three years or more without a return of the symptoms numbered 23.3 per cent.; whereas only 9.8 per cent. of those who suffered from the adhesive form of the disease could be regarded as cured after abdominal incision. There is no doubt that the curative effect of laparotomy upon peritoneal tuberculosis is vastly over-estimated. Indeed, one is almost justified in denying that laparotomy has any curative effect, since cases are recorded of spontaneous cure without any operation. (Medical News, December 9, 1899.)

STOMATITIS, DIAGNOSIS OF.

There can be no doubt that a membranous stomatitis may be due to several different microbes, including the diphtheria bacillus, and that it may be impossible to distinguish a genuine diphtherial stomatitis from other forms (conveniently classed at present as diphtheroid stomatitis) by a mere inspection of the mouth or by the presence or absence of general symptoms. Hence the importance of making a bacteriological examination in cases of membranous stomatitis in order to recognise the actual contagium of the disease, and to isolate the cases of genuine diphtherial stomatitis. (From Dr. Trevelyan's paper in the British Medical Journal, April 21, 1900.)

TAPEWORM, A NEW TREATMENT OF.

Kime (*Medicine*, September, 1899) says that failure to secure the head of a tapeworm is often due to the fact that the parasite is carried into the lower bowel and has time to re-attach itself before its body is expelled. He therefore ties the protruding part of the worm about three inches from the anus of the patient, and then injects half a grain of morphine directly into the substance of the worm. After a short time a large injection of water is given, and the upper portion of the worm will pass out motionless and apparently dead. Most tapeworms have a pair of longitudinal vessels extending from one extremity to the other, so that a substance injected into any segment will reach every portion of the parasite. An elaborate preparatory treatment is quite unnecessary. His patients do not eat breakfast, and about nine o'clock receive a dose of infusion of pomegranate, or, what is far better, of pelleterin tannate with one or two drops of croton oil. The patient should remain in bed under observation for two or three hours until movements of the bowels occur. If the worm passes, well and good. If only a part protudes, the morphine should be injected into the worm. (Practitioner, December, 1899.)

THRUSH, TREATMENT OF.

De Rothschild (*Progrès Medical*, March 3, 1900) points out that the preventive treatment of thrush in infants is dietetic and hygienic. The possibility of a mother or nurse passing it from one infant to another in the process of suckling must be recognised and guarded against. The milk, if given to the infants from a bottle, must be absolutely sterile, while the bottle must be kept strictly aseptic, and the times of feeding, with the amount at each, must be carefully regulated. The curative treatment in the case of mild attacks is rapidly and completely effected by touching the affected portions of the buccal mucous membrane with some alkaline solution, as Vichy water, lime water. or a solution of sodium bicarbonate. This application should be made two or three times a day, and conveniently with the finger enveloped in absorbent lint. A cure is usually effected in from twenty-four to thirty-six hours. For the more severe and chronic cases the mucous membrane must be painted—using the finger surrounded by lint or a tampon—with a 1 in 1,000 solution of perchloride of mercury two or three times in the twenty-four hours ; or a solution of perchloride of iron, as recommended by Comby, may be used instead ; or a solution of potassium permanganate (1 in 25), as advised by Baginsky ; or a 10 per cent. solution of sodium benzoate, as used by Tordeur. The infant must meanwhile be well fed, and at each feeding one or two teaspoonfuls of Vichy or lime water should be given. Baginsky has recommended that three or four teaspoonfuls of a 1 per cent. solution of resorcin be given in the twenty-four hours instead of the alkaline water. (British Medical Journal Epitome, March 24, 1900.)

TUBERCULOSIS OF STOMACH.

Based on an extensive pathologic experience, M. Simmonds (*Münch. med. Woch.*, March 6, 1900) concludes that gastric tuberculous ulcers are extremely rare. Although the gastric juice does not directly kill the bacilli, it renders the soil unfit for their propagation. Wherever there is achlorhydria, as in gastric cancer, the ulcers are not as rare as in otherwise normal organs. As a rule, they present small, single or multiple losses of tissue most commonly situated about the pylorus. Gastric symptoms were uniformly absent in all cases examined, thus rendering a diagnosis *intra vitam* impossible. (Medical News, March 31, 1900.)

Affections of the Urinary and Generative Systems.

ALBUMINURIA, MILK DIET IN.

Mabboux (*Lyon méd.*, February 11, 1900) states that, as soon as albuminuria is detected, it is too much the custom to put the patient on a strict or partial milk diet. The simplicity of the method, and a too great tendency to generalise, seem to be accountable for this. Von Noorden, Lancereaux, and others have protested strongly against it as a routine practice, the second-named holding that it is only advisable in desquamative nephritis, and not in the interstitial variety. Mabboux advises as follows :—Great care should be taken to determine whether the albuminuria is functional or due to a kidney lesion, which can only be determined by a prolonged and careful investigation of the patient's antecedents and habits. If it be concluded that there is a chronic nephritis, the medication must assume a depurative character, as no medicines are capable of curing the disease. Milk is very valuable in such cases. In functional cases, however, the cause may be nervous, gastro-hepatic, gouty, or due to gravel, rapid growth, or menstrual disorder, and here treatment should be directed to the cause. As a result of neglect, such transient albuminuria may become permanent, owing to chronic injury of the renal epithelium. In these cases milk may be largely used or not, as may seem best in regard to the general health and nutrition, and its digestibility in individual instances. (Abstract in the Edinburgh Medical Journal, April, 1900.)

ALKAPTONURIA.

Dr. A. E. Garrod describes five new cases of this affection. The following are the essential features of the urine of alkaptonuria. (1) Although of normal appearance when passed, the urine rapidly acquires a deep brown colour and ultimately becomes black on exposure to air. (2) The brown colour is greatly intensified by alkalies, its development being accompanied by absorption of oxygen. (3) The urine reduces Fehling's solution with the aid of heat, and actively reduces ammoniacal silver nitrate solution in the cold. (4) The bismuth test for sugar yields negative results (one recorded example alone offered an exception to this rule). (5) The urine has neither dextro-rotatory nor lævo-rotatory power. (6) The fermentation test yields negative results. (7) Fabrics moistened with the urine become deeply stained on exposure to air. (Medico-Chirurgical Transactions, vol. lxxxii., 1899.)

BACILLURIA, TYPHOID.

This can often be recognised by the naked eye. All that is necessary is to pour the turbid urine into a test tube, and then, holding it up to the light, gently to shake it. If the turbidity be due to the presence of micro-organisms we notice at once a curious shimmer in the liquid exactly comparable to that seen in shaking any turbid broth culture, a phenomenon which is not seen when the urine is cloudy from other causes, such as phosphates, urates, &c., probably because the amorphous particles of which these deposits consist are unable to catch and reflect the light in the same way as the regularly shaped bodies of the bacteria. Experience shows that when this condition is noticed in typhoid fever, if the case be a male, it is most commonly due to the presence of the true typhoid bacillus. This, however, can only be proved by cultivation, and even in the male the same naked-eye appearance may sometimes, though much less commonly, be produced by other microbes, such as the bacillus coli communis, the streptococcus pyogenes and the staphylococcus aureus. In the female, however, much less reliance can be placed on a mere inspection of a naturally passed urine, the sources of contamination being too gross. (From Dr. Horton-Smith's Gulstonian Lectures, The Lancet, March 31, 1900.)

BRIGHT'S DISEASE, SUDDEN DEATH IN.

It seems certain that chronic Bright's disease is a not infrequent cause of sudden death, apart from any associated condition known to lead to this result. Excluding from 111 cases of sudden death, where post-mortem examinations were made, the 32 cases of children under four years of age and the seven cases of "accidental death," we are left with a total of 72. Out of this number no less than 12 died as the result of kidney disease, *i.e.*, 16.6 per cent. In the present analysis this figure makes chronic Bright's disease the next most frequent cause of sudden death after heart disease (17.4 per cent.). The variety of Bright's disease found as the sole causal factor in these cases is almost invariably that designated "chronic interstitial nephritis," "granular kidney," or "contracting kidney." (2) It seems certain that chronic Bright's disease is an extremely frequent accompaniment of the various vascular, cardiac, and respiratory diseases found to produce sudden death; and this frequency is greater in these diseases when thus terminating than when they lead to death which is not sudden. Out of the above total of 72 cases (again excluding children under four and accidental cases) it is found that 45 possessed this lesion in addition to the probable ultimate cause of death, *i.e.*, 62.5 per cent. The variety of Bright's disease found as the concomitant factor in these cases is again "chronic interstitial nephritis." (3) The order of frequency of the causes of sudden death in persons aged 14 years and upwards, in the present analysis, is as follows:—(*a*) Heart disease; (*b*) chronic Bright's disease; (*c*) vascular degeneration; (*d*) phthisis; (*e*) ruptured aneurism; (*f*) pneumonia; (*g*) undiscovered. (4) The sex in cases of sudden death shows a large excess of males over females among the adult cases (ten to one), and a conspicuous excess of females over males in the case of children (five to three). (5) The age-incidence in cases of sudden death shows two periods of life during which the condition mainly occurs: (*a*) from birth up to three years, and (*b*) from 30 years onwards. From three to 14 there is practically a total immunity. From 14 to 30 a few cases only occur. (From Dr. Horder's paper in St. Bartholomew's Hospital Reports, vol. xxxv.)

BRIGHT'S DISEASE, SLIGHT, NERVOUS ACCIDENTS IN.

(By De Fleury, *Le Progrès Médical*, December 2 and 9, 1899.) In four slight cases of Bright's disease the following symptoms were observed:—Sense of fatigue in the limbs; very high arterial tension; keen appetite, with difficult digestion; diurnal somnolence, with nocturnal insomnia; tinglings and local asphyxias of the extremities; deficient, hypotoxic, and slightly albuminous urine. These were attacked, the first, with right hemiparesis with slight asphasia, the second with melancholia and delusions of persecution, the third with mental confusion and melancholia, the fourth with minor epilepsy. The ordinary treatment for these affections was followed by no improvement, but the adoption of milk diet, with injections of pilocarpine, brought about a distinct amelioration, and the discontinuance of this was always followed by reappearance of these symptoms. The writer concludes that these cerebral troubles arise from slight uræmic intoxication, and points out that the non-recognition of this state of intoxication (which is often accompanied with very slight traces of albumen) may lead to errors of diagnosis and unsuccessful treatment. A study of the arterial pressure and urinary toxicity are found to be valuable guides. (Glasgow Medical Journal, February, 1900.)

GRANULAR KIDNEY, AMOUNT OF FLUID TO BE TAKEN IN.

From the results of a number of observations V. Noorden (*Verhandlungen des Congresses für innere Medicin, Wiesbaden*, 1899, p. 386) concludes that very often patients suffering from granular kidney are benefited by limitation of the amount of fluid taken. The limitation of the fluid is especially useful in advanced stages in which attacks of cardiac asthma occur, and dilatation of the heart is present; it causes the difficulty of breathing to diminish, the cardiac dulness becomes smaller, and the diuresis more abundant. The improvement in many cases continues for several months or even a year, but of course not in all cases. In the earlier stages of granular kidney, so long as the kidney disease is compensated by cardiac hypertrophy, large quantities of fluid produce no immediate ill effects, but the limitation of fluids in these cases tends to prevent future troubles. In some cases large quantities of fluid at once give rise to bad results: V. Noorden records two cases in which excess of fluids produced cardiac dilatation and weakness. The excretion of urea, uric acid, and urine salts is not diminished by restricting the amount of fluid. (From Dr. R. T. Williamson's Abstract in the Medical Chronicle, February, 1900.)

ENURESIS, THERAPEUTICS OF.

Amat (*Bull. Gén. de Thérap.*, November 8, 1899) draws attention to the following varieties:—(1) The vesical muscular fibres are too sensitive to distension; the will masters them to a considerable extent during the day, but they contract just as the patient drops off to sleep. For this condition bromides, chloral, opium, and, better still, belladonna, atropine, and antipyrin are indicated. (2) There is actual hyperæsthesia of the vesical and urethral mucous membrane, even when the bladder is almost flaccid. The catheter reveals this condition. It is improved or cured with bromides, valerian, asafœtida, and ammonio-sulphate of copper. The latter seems better than iron and nux vomica. (3) The ease with which the catheter can be passed through the membranous part of the urethra shows that the vesical sphincter is not irritable, but weak. Guyon lays stress on this variety of neuropathic enuresis. Strychnine, rhus aromaticus, and, above all, electricity are needed for its relief. There is a form of enuresis which seems to be purely mental; the child in such a case must be awakened and made to dress and get up to micturate two or three times a night. Power's practice of applying a drop of collodion to the meatus at bedtime often proved efficacious. Physical exercise is much needed in these cases. (From British Medical Journal Epitome, January, 1900.)

HÆMATURIA, MALARIAL.

In all cases of malarial fever complicated with hæmaturia which have come under my observation, the hemorrhage has come on during the cold stage or in a very short time after. The urine is generally of a muddy, brownish-red colour, and sometimes of a brighter red, and we frequently find it of brown or greenish-black. Microscopical examination shows numerous cells from the kidneys, tubuli uriniferi, discoloured by the colouring matter of the bile and blood, and large numbers of blood-corpuscles a few of them unchanged, or apparently so, but most of them crenated and disintegrated. Chemical examination shows the presence of blood and albumin, also bile, the latter in large quantity. Specific gravity rather low, ranging from 1.013 to 1.017. Reaction of urine acid. The pulse in this disease after the initial chill is not in keeping with the temperature, its rate being much lower than in other forms of malarial fever. This slow pulse may be due to the effect of the bile in the blood over the nerve-centres governing the heart's action. In some cases death results from exhaustion, brought about by the incessant vomiting and loss of blood through the renal organs. In the severer forms of the disease the discharges of bloody urine cease suddenly, followed by a total arrest of the renal functions, and if this missing function of the kidneys is not promptly restored convulsions, delirium, and death will ensue. We sometimes meet with cases where, although no suppression of the renal functions exists, a sudden collapse occurs, followed by prostration and coma. Many fatal cases are accompanied by intense jaundice, uncontrollable vomiting, and profuse renal hemorrhages. (From Dr. Bat. Smith's paper in the New York Medical Journal, February 3, 1900.)

NEPHRITIS, INFLUENZAL, IN CHILDREN.

Dr. Rowland G. Freeman, of New York, read this paper. He said that nephritis was among the rarer organic lesions in childhood. In most cases with high temperature there was albumin in the urine, but real nephritis rarely occurred. Minor mentions four hundred cases of influenza with only one per cent. of nephritis as a complication. In 55,263 cases in the German army, only ten patients were noted as having nephritis. In Lichtenstein's four hundred cases there were but two with complicating nephritis. The complication was more common in children than in adults. The literature supplied only seventeen legitimate cases in both adults and children. Five occurred under the age of twelve years. Only two of twelve patients died. The prevailing type was the acute hemorrhagic. The urine was diminished; blood and albumin were present. His case was that of a boy aged four years who had influenza each winter. The temperature was 102.5 deg. F. The urine was normal on the fifth day, red on the sixth, scanty and full of blood on the ninth; casts and epithelium were present. In ten days it was again normal. The patient passed thirty ounces daily for weeks, usually of low specific gravity, but on one occasion 1,050. The child recovered, as was usual in such cases. (Medical Record, May 19, 1900.)

STRICTURE OF THE URETHRA, PREVENTION OF RENAL COMPLICATIONS IN.

The amount of damage to the kidney depends not so much upon the tightness of the stricture as upon the amount of voluntary straining habitually used by the patient, in attempts at forcing out the water. No matter how tight a stricture may be, the bladder—in the absence, of course, of actual retention—will empty itself spontaneously without straining, if it be allowed to do so, although the process may be slow and sometimes tedious: no more backward pressure will, as a rule, under these circumstances be thrown upon the ureteral valvular arrangement than that mechanism can bear; provided, of course, that there is neither cystitis nor extreme vesical irritability, either of which may give rise to violent involuntary contractions. It is impossible to exaggerate the importance of impressing upon every patient who suffers from stricture the ultimate dangers which arise from voluntary straining in passing water; not only does the straining tend to cause renal troubles which would in many cases not otherwise occur, but it will be found upon inquiry that in quite a number of cases of retention of urine the retention has come on whilst the patient has been straining with the view to accelerating the flow of a slow stream. (From Mr. W. H. Bennett's paper in the Practitioner, June, 1900.)

VASECTOMY.

Mr. Reginald Harrison concludes :—(1) That vasectomy has been shown to be specially effectual in the earlier stages of prostatic hypertrophy in effecting shrinkage of the gland and the restoration of the natural process of micturition. (2) That in cases where there is evidence to show that the prostate has in the course of degeneration assumed the form and structure of a fibrous growth the conditions are such, provided the symptoms of obstruction warrant the adoption of other measures than catheterism, as to render some form of prostatectomy preferable to either vasectomy or castration. (3) That where as a consequence of sudden or protracted prostatic obstruction secondary changes have taken place in the bladder itself, in the form of sachs, pouches, or trabeculation, the possibility of restoring its natural function by any means is extremely unlikely. Under such circumstances the induction of shrinkage of the enlarged gland will do good in affording a readier access for the catheter and in removing spasm, pain, or hemorrhage connected with this or other similar process. (The Lancet, May 5, 1900.)

UROTROPINE AS A URINARY ANTISEPTIC.

Mr. Cammidge says that there was both clinical and experimental evidence tending to show that one condition necessary for success in using the drug as a urinary antiseptic was that the urine should be acid in reaction as it was secreted in the kidney. Stress was laid on the marked inhibitory action of urotropine, and still more of urotropine urine on the typhoid bacillus, and he pointed out that there was a wide field of usefulness for urotropine, both in the treatment of cystitis and other conditions liable to complicate enteric fever, and as a preventive against the dissemination of typhoid bacilli by the urine. Mr. Cammidge suggested that all patients suffering from enteric fever should receive 10 gr. of urotropine three times a day from the end of the second week or during convalescence. Reference was also made to the usefulness of the drug in the cystitis accompanying large prostate and stone, as well as the benefits to be derived from its administration in bacteruria, some cases of noctural enuresis in children, and as a preparation for operations on the urinary tract. (British Medical Journal, March 17, 1900.)

General Surgery, and Affections of the Bones, Joints, &c.

ADENOIDS.

Cases of latent adenoids, where the growth occupies Rosenmüller's fossa on either side, and presses on the openings of the Eustachian tubes without blocking the breathing, are rather common, and often overlooked. There is a belief that the earache is part of the necessary business of childhood, almost as natural as teething. Nothing is done for it, and so much might be done; so many children might be saved from pain, deafness, and otorrhœa, and all the trouble and risk that otorrhœa brings with it. Hot fomentations, cocaine, gentle Politzerising, a drop or two of laudanum—these things have a wonderful effect on the ordinary earache of childhood, and often succeed in cutting it short without perforation of the membrane. Unhappily, just as the parents of the child neglect the earache, so we ourselves often overlook the cause of that earache. Setting aside the specific inflammations of the throat, I believe that adenoids are responsible for 80 or 90 per cent. of the earaches of childhood. And it is a good rule in practice, in every earache, to suspect adenoids, and to make careful examination of the naso-pharynx. (From Mr. Stephen Paget's paper in the St. Bartholomew's Hospital Journal, April, 1900.)

ANEURISM, EXTIRPATION OF.

Dr. W. W. Keen, of Philadelphia, read this paper upon the extirpation of a very large renal aneurism. He said that there had been reported but 12 cases. Three only had been operated upon—the first by Albert, of Vienna; the second by Hahn, of Berlin, in 1893; the third having been Dr. Keen's case. The patient was a woman, aged 45 years. She had had pain over the gall bladder for four years, with swelling on the right side of the abdomen. A vertical incision was made through the right rectus, and immediately the tumour sprang up to view. He was uncertain of its character till after its removal, when it was split; this showed it to be an aneurism. Dr. Keen spoke of the differential diagnosis; also of the fact that, presumably because of the small size of the renal artery in proportion to the size of the aneurism, pulsation was absent. The tumour was large, 14.5 cm. in diameter; it weighed 970 gm. In conclusion, he spoke of the encouraging outlook in this class of cases. Of the three patients operated on, three lived. (Medical Record, May 19, 1900.)

ARTHRITIS, ACUTE SUPPURATIVE, IN CHILDREN.

These inflammations occur, as a rule, either as complications or sequels of other diseases, and may begin either as a synovitis, an epiphysitis, or an osteomyelitis. The majority of cases begin as an osteomyelitis. When accompanying the exanthemata, diphtheria or typhoid, they are usually due to a streptococcus infection. Cases complicating pneumonia have been reported in which the diplococcus was the cause. The joints most commonly affected, in the order of their frequency, are the hip, knee, shoulder, and elbow. The most common error in this as in all other joint inflammations is to make a diagnosis of rheumatism. The latter does not remain in any one joint to the exclusion of others for any length of time, and it is not a suppurative affection. Suppurative synovitis as a complication or sequel may be polyarticular. Suppurative arthritis may be confounded with the bone affection of infantile scorbutus, but in the latter careful examination will demonstrate that the soreness is in the shaft of the bone. When in doubt as to the character of the contents of a swollen joint, one should draw off a small amount with an aseptic hypodermic needle. When this disease is recognised and promptly treated, the prognosis is good, but when neglected, the joint surfaces are destroyed and the patient's life endangered. When the diagnosis is thoroughly established, the only treatment to be considered is free incision and drainage. (From Dr. James E. Moore's paper in the Journal of the American Medical Association, February 3, 1900.)

CANCER AND IRRITATION.

Volkmann found that out of 126 cases of cancer of the limbs 99 were due to irritation. The well-known effect of irritation in producing cancers around the mouth need scarcely be mentioned. Jagged teeth, the presence of tartar, the use of tobacco, all have been set down seemingly with good reason as predisposing causes of cancer. Debove reported cancer of the tongue in 24 cases out of 25 cases of psoriasis that he had had under observation. The process recalls vividly Paget's disease of the nipple and the liability to cancer that follows it. Cancer of the genital organs is also frequently due to chronic irritation. Psoriasis uterina has been reported as preceding cancer of the body of the uterus. Cervical cancer follows the use of a pessary or occurs in the scar of a laceration of the cervix or at the site of an old ulcer. Cancer of the bladder occurs after a vesical calculus and cancers of various parts of the urinary tract have been traced to the irritation of calculi at various points in the kidney and its pelvis. Biliary lithiasis is undoubtedly at least a predisposing cause of cancer of the gall-passages. Epithelioma has been reported as developing in the wall of a cavity in the lung and in the indurated tissue around a tracheotomy tube. Endotheliomata have occurred with great frequency among the workers at Schneeberg in the cobalt mines. It occurs in the lungs from inhalation of the irritating metal dust of the mines. (From Dr. Boswell Park's remarks before the New York Academy of Medicine, Medical News, March 3, 1900.)

CANCER, TREATMENT OF INOPERABLE.

Professor Czerny (Heidelberg) said that cases in which ulceration had occurred called, in particular, for skilled treatment. By careful bandaging and by keeping the ulcers clean much might be done to relieve the patients. The application to such surfaces of zinc chloride, by the use of gauze bandages dipped in solutions, varying in concentration from 10 per cent. to saturation, had a very good effect, and in some such cases recovery even took place under this treatment. Of course, this was very exceptional, but in nearly all cases the patients were considerably relieved. In suitable cases the use of zinc chloride in solution or paste should be preceded by cauterisation or scraping. For cauterisation he preferred the actual cautery. The pain produced by the corroding action of zinc chloride did not last long, and could easily be kept within moderate limits by morphine. Subcutaneous injections of solutions of formalin were too painful. Sometimes arsenic had a remarkable effect upon these cases ; it could be given internally as by subcutaneous injection, or used as a paste or ointment. Potassium iodide was of value for the verification of the diagnosis. Professor Czerny stated that organotherapy had not given him satisfactory results, but he considered the treatment by the toxins of erysipelas was worthy of careful study in order that a definite opinion on its value might be formed. It was pointed out in the discussion that the corroding effects of zinc chloride were sometimes attended by the danger of destroying the walls of a blood-vessel, with consequent serious bleeding. (From report of German Surgical Congress in the British Medical Journal, April 28, 1900.)

FEMUR, OPERATIVE TREATMENT OF FRACTURE OF

In deciding whether the case is one best treated by operative means or not, a skiagraph is of the greatest service, as by it we are not only enabled to see the position of the ends of the bones, but we are also able to see the location of any detached fragments. A skiagraph, however, is not usually essential, for in most cases the projection of the fragments will enable us to locate them with sufficient accuracy. The operation should be undertaken within ten days of the injury ; one should not wait so long that the fragments become fixed in their displaced condition. A day or two will usually suffice to demonstrate what can be done by conservative measures. To sum up, operation is advised when in an oblique fracture the fragments are so caught in the tissues as to prevent approximation ; also when a free splinter of bone prevents the fragments being brought together, and, finally, in those cases of transverse fractures in which the fragments persist in lying side by side instead of end to end. In fractures at the extreme end of the femur, with displacement into the popliteal space, I would not hesitate to operate, provided the fragments could not be reduced without so doing. Injury to the vessels may necessitate amputation. Fractures toward the upper third below the trochanters are best treated by operation. Ununited fractures are of course to be treated only by operation. (From Dr. Gwilym G. Davis's paper in the Therapeutic Gazette, May 15, 1900.)

GLYCOSURIA AND OPERATIONS.

It appears from a review of various opinions and my own limited observations, that the presence of glycosuria in those individuals who may have surgical diseases does not in itself constitute an absolute contra-indication to any and all surgical relief. Very great judgment must be exercised in the selection of cases, in the determination of the kind and extent of the operation to be performed, and the strictest surgical asepsis must be rigidly observed throughout. Infection when it occurs is from without, and is the result of an error in the technique ; it thus happens the constitutional symptoms become most serious, and out of all proportion to the local, generally ending in death. When infection does not occur the operative wounds heal kindly but slowly, especially in granulating wounds. The vascularity of the tissue must be interfered with as little as possible, so that every operation should be planned with this object in mind. I am of opinion that it is better to cut down upon and ligate the artery in gangrene of the extremities rather than to attempt the bloodless amputation by means of the Esmarch band, in consequence of the possible harm to the tissues, especially the blood-vessels, whose vitality is not of the best. (From Dr. Arthur L. Fisk's paper in the Annals of Surgery, April, 1900.)

HÆMOSTATIC, LOCAL USE OF GELATINE AS A.

Dr. J. B. Nichols reports a case of hæmophilia in which gelatine was successfully used. The solution of gelatine mostly employed locally for the purpose of arresting hemorrhage consists of 5 to 10 per cent. of gelatine with 6 per cent. to 1 per cent. of calcium chloride or sodium chloride in 100 parts of water. This may be sterilised by heating to 100 deg. C. for fifteen minutes daily for two or three days, avoiding a temperature much in excess of 100 deg. C. The (10 per cent.) gelatine culture-medium used in bacteriological work can in case of need be melted and applied; peptone, which is ordinarily contained in this medium, has, it is to be noted, a distinct counteracting effect on the coagulating action of gelatine. If it is desired to make the solution antiseptic as well as sterile, the usual antiseptics can be added, as 1 per cent. of mercuric bichloride. Queyrat has suggested the addition of glycerine. When the gelatine solution is to be employed it is melted and brought just to the body temperature. It is applied by irrigation with, or injection of, a quantity, or by applying a tampon or compress saturated with it. The ordinary precautions as to asepsis are, of course, to be observed. (From Dr. Nichol's paper in the Medical News, December 2, 1899.)

NIRVANIN.

Dr. C. H. Elsberg thus sums up his results :—(1) Nirvanin has distinct and valuable anæsthetic properties when injected into the tissues according to the infiltration method. (2) Nirvanin is ten times less poisonous than cocaine, and more than three times less poisonous than eucaine. (3) It has distinct antiseptic properties ; a solution of one per cent. or more can be kept as a stock solution and will remain sterile. (4) It is a stable compound, and can be boiled a number of times without diminishing to any degree its anæsthetic properties. (New York Medical Journal, January 13, 1900.)

SHOCK.

The following are Dr. John H. Rishmiller's conclusions :—(1) Sensory-nerve irritation sufficiently powerful to produce exhaustion of the vasomotor centre causes a reflex paralysis, and consequently a dilatation of the vascular mechanism. (2) Children and aged people with lax fibres, and those addicted to alcohol, bear a peculiar susceptibility to shock. (3) Hemorrhage is the most pronounced cause, particularly if venous, as then the equilibrium of the vasomotor mechanism is too suddenly deranged. (4) Two distinct types are recognised : prostration with indifference, and prostration with excitement. (5) Peritoneal absorption of septic material invariably terminates fatally through shock before evident manifestations of peritonitis have developed. (6) A subnormal temperature, irregular pulse, superficial respiration, cold and anæmic extremities, and clammy perspiration contraindicate an operation. (7) The severity of operative shock largely depends upon the length of time in the performance of the operation, and the duration and degree of the anæsthesia. (8) Shock mav to a large degree be prevented by any counter-irritation applied to the extremities. (9) Brandy per os and morphine subcutaneously before operating are imperative precautions toward prophylaxis. (10) The main treatment consists in stimulating the vascular system, and to preserve the animal heat and supply artificial heat to the body. (11) In acute hemorrhage or other excessive anæmia an infusion of normal saline solution is prudently indicated. (New York Medical Journal, March 17, 1900.)

SUPPURATION, POST-TYPHOIDAL.

Mr. Paul Bush and Dr. J. O. Symes relate a case of a bone abscess of seven years' duration due to the typhoid bacillus, occurring in a woman aged 25 years. An agar-tube inoculated at the time of operation showed after twenty-four hours' incubation an abundant growth of an organism corresponding morphologically with the bacillus typhosus. It was mobile in broth, but did not form indol. There was no formation of gas in glucose gelatine. The proof of its being the typhoid bacillus was placed beyond all doubt by the fact that when tested with the blood of several typhoid patients, with dilutions of 1-20, 1-30, 1-50, broth cultures were immediately clumped. The patient's blood was examined for Widal's test, and gave a good reaction with a dilution of 1 in 50. Cases of suppuration due to the typhoid bacillus are not rare, but the present case is remarkable on account of the length of time that had elapsed since the attack of enteric fever. A remarkable feature of these cases is that even although an open sinus may exist leading down to the abscess cavity, the bacillus typhosus may still be found for months and years in pure culture. I have had the opportunity of examining the pus from three other suppurative lesions occurring during or immediately after enteric fever. In one, a liver abscess, the Eberth-Gaffky bacillus was present, together with staphylococcus ; in the second, an abscess in the abdominal walls, staphylococci only were found ; and in the third, an ischio-rectal abscess, owing to the number and variety of the organisms present, it was impossible to isolate any specific bacillus. (The Practitioner, April, 1900.)

SUPRARENAL EXTRACT IN NASAL SURGERY.

Dr. F. E. Hopkins, of Springfield, Mass., read a paper on secondary hemorrhage after the use of suprarenal extract. He said that after having used the suprarenal extract for some time he had become so enthusiastic over it that he had found it difficult to charge anything against this new remedy, but he had been compelled to take cognisance of a tendency to secondary hemorrhage, coming on from two to six hours after operation. The first case had been that of a young woman from whom he had removed a posterior exostosis of the septum under the combined effects of cocaine and suprarenal extract. Hemorrhage had occurred three hours later. He had occasionally observed in patients an idiosyncrasy to its use, violent coryza sometimes developing after its application to the mucous membrane. Sometimes its use would be followed by sneezing, lasting for hours. From numerous inquiries, made among his friends and among representative laryngologists, it was evident that the concensus of opinion indicated that there was an increased tendency to secondary hemorrhage after the use of suprarenal extract.' In two cases following its use the hemorrhage was alarming. Dr. Hopkins said that he had used the extract in a number of acute and subacute inflammations of the upper air-passages, and almost always with satisfaction. The final relaxation following the combined use of both cocaine and suprarenal extract was found to be greater than after the use of cocaine alone. (Laryngoscope, April, 1900.)

Affections of the Skin, &c.

CHRYSAROBIN AND PYROGALLOL.

In looking through Merck's report for 1899, I find that opinions concerning the chrysarobin and pyrogallol substitutes have somewhat modified. Eugallol is still claimed to be more powerful than pyrogallol, but lenigallol, as far as my experience goes, is much too mild. Eurobin, the substitute for chrysarobin, also fails on the mild side, though it is claimed to be effective in psoriasis. Evidently reliance must still be laid on the old remedies, as the new ones are very uncertain, most of them are still on trial. There is one new antiseptic, I notice, in this excellent report, asterol, chemically paraphenol - sulphonate of mercury, with ammonium freely and clearly soluble in warm water, though it is said to be seven times weaker than mercuric chloride in bactericidal power. (From Mr. Herbert Skinner's Pharmaceutical Notes in the British Journal of Dermatology, May, 1900.)

FAVUS.

There are four characteristic features :—(1) The favus cup or scutulum, *i.e.*, a rounded yellow crust, with a depressed centre that surrounds the hair at its point of emergence, and for a considerable time remains covered by a thin layer of epidermis. (2) The hairs do not break off, but are cast off bodily, and can be epilated with bulb and a greasy sheath attached. The base of hair is always discoloured. (3) The tendency to form scars with permanent alopecia. (4) The mousy smell. When an extensive case is seen the scutula may be very large, size of half-a-crown or more, and may very nearly cover the whole scalp. At the commencement they are seen as tiny white circles surrounding the hair, deep down in epidermis. In time they rise to the surface, and the edge becomes raised ; many unite to form very thick yellow crusts. The microscopic features are very characteristic. The hairs are long ; they have a greasy yellowish-white sheath. The base is discoloured grey. The bulb is still adhering, a thing rare in ringworm. A very striking feature is that the base of the hair shaft is full of air columns, which empty spaces soon become full of the fluid in which the hairs have been placed. In the shaft we see a few mycelial chains of very irregularly segmented spores. These pass up the hair, not straight as in endothrix, but in a wavy uncertain direction. The chains present another feature, in that the envelope is hard to demonstrate. There is not the marked double contour met with in ringworm. (From Dr. W. B. Warde's paper in the St. Bartholomew's Hospital Journal, January, 1900.)

LUPUS AND PHOTOTHERAPY.

Dr. Valdemar Bie (*British Medical Journal*, September 30, 1899) describes the apparatus used. In the summer time sunlight is employed whenever it is available. But the sunlight has first to be concentrated and at the same time filtered as far as possible of its heat-rays, which are to be found towards the red end of the spectrum. An ingenious lens is used for this purpose, consisting of a plane glass and a concave one fixed in juxtaposition in a ring of brass, and containing a bright blue liquid in the space between them, so that in effect the light passes through a plano-convex liquid lens. It is thus robbed of its heat-rays and at the same time concentrated. At other times of the year the electric light is employed, and this involves the use of a more complicated apparatus. Dr. Stephen Mackenzie, having spent a week at Copenhagen studying the Finsen treatment, records his opinion of the method in the *British Journal of Dermatology*, November, 1899. He seems to have returned with a high sense of its efficacy. Up to the present time close on 400 cases of lupus have been treated, and in all the "cures" Dr. Mackenzie was struck by the suppleness and good appearance of the scars from a cosmetic point of view. Many of the cases under treatment were very severe forms of lupus, and in no less than 75 per cent. of the total number the mucous membranes were involved, certainly a high proportion. The writer is of opinion that the good effects of the treatment are brought about by inflammatory reaction, whereby the bacillary exciters of the granulation tissue are killed. The extent of the inflammation depends largely upon the individual idiosyncrasy; it is much less with sunlight than with the electric light, and is sometimes so severe that operations have to be temporarily suspended. Dr. Mackenzie duly notes the obstacles in the way of the more general employment of phototherapy—its extreme cost and slowness of action—but concludes his interesting article with a strong appeal in favour of the method as being "applicable to all cases, and better than most methods of treatment for the majority of cases." (From G. H. Lancashire's Summary in the Medical Chronicle, December, 1899.)

PITYRIASIS RUBRA.

The question of the origin of pityriasis rubra is one of the most puzzling in dermatology. It may apparently occur in the course of almost any acute and widespread cutaneous affection, whether eczema, psoriasis, lichen planus, erythema multiforme, or even from direct irritation from drugs. I recall one severe case which began as lichen planus, and in which the flat-topped shining papules of the lichen could be seen for some time projecting up from the universal reddening. In another case it followed erythema multiforme, and here the general symptoms were so intense that the patient became delirious, insane, and finally died in coma. As to the actual nature of the disease we are equally in the dark, the character and severity of its general symptoms apparently pointing towards some form of intestinal toxæmia, and, indeed, among internal remedies the intestinal antiseptics appear to give the most relief, although we can hardly claim that any one remedy has a marked effect. No doubt part of the toxic symptoms are due to the extensive impairment of the excretory functions of the skin. Indeed, it seems possible that pityriasis rubra may not be a distinct disease entity at all, but an extreme stage in the development of a variety of skin diseases. The extraordinary number and variety of diseases from which it may apparently originate would certainly point in this direction, though it must be admitted that it also appears as a substantive disease. (From Mr. Malcolm Morris's lecture, in the London Polyclinic, January, 1900.)

PSORIASIS, KAKODYLATE OF SODIUM IN.

Neumann (*Archiv für Dermatologie und Syphilis*, Band xlix., Heft 1), at a séance of the Vienna Dermatological Society, exhibited two patients with psoriasis who had been treated by injections of kakodylate of sodium. The first patient, a girl, aged 19 years, who had not been treated before her entrance into the hospital, received at first injections of a solution 2:20; later the strength of the solution was increased to 4:20, and then to 6:20. After twenty injections the eruption, which was a very extensive one, began to undergo involution, and after thirty the scales fell off, leaving smooth, red spots. Although the amount of kakodylate of sodium given contained about 10 grammes of arsenic, no unfavourable effects were produced. The second patient was also a young woman, twenty years of age, with an extensive eruption. She received daily injections of a 20 per cent. solution. (American Journal of Medical Science, February, 1900.)

RHINOSCLEROMA.

Dr. C. W. Allen, of New York, cites two cases of rhinoscleroma, one of which had been under his observation since 1889, the other for about three months. In the first case the portion of the growth involving the centre of the upper lip, gum, and inferior portions of the nose broke down in a gangrenous suppuration, and within the period of a fortnight was completely thrown off, leaving the bones denuded. These subsequently became covered over with a reproduction of the new growth, so that eating, breathing, sleeping, &c., became more natural, and life was prolonged after it had been despaired of. In the case of the man, whose affection had existed for nineteen years at least, there was enormous enlargement of the external nose, with dilatation of the nostrils, which were also practically occluded. For nine years a tracheotomy tube had alone made breathing possible, and the stenosis extended the whole length of the pharynx, shutting off the posterior nares by bands and masses of fibrous tissue. Despite the severity of the condition present in both cases, there had been recent improvement in the general health. (Medical Record, May 19, 1900.)

RINGWORM, TREATMENT OF.

In treatment the following are the rules to be observed :—(1) The hair must not only be cut or shaved off, but the entire scalp must be kept bare of hair, by razor or curved surgical scissors, till the cure is complete. In this there can be no compromise. (2) Again, the scalp must be kept rigorously clean. It must be washed twice daily with a fluid superfatted potash soap and warm water, the soap being poured on a piece of wet flannel and moderate friction employed. Such a soap only will keep the surface soft, polished, and adapted for the reception of remedies. The affected areas usually show a pinkish tint, as compared with the healthy, while the diseased hairs do not all grow in the proper direction. The application which has proved most efficacious in my hands is one modified from an old formula of the late Sir William Jenner. It consists of precipitated sulphur, 1 drm. ; salicylic acid, β-naphthol, and ammoniated mercury, each 10 grs. ; and lanoline, 1 oz. One point is of great consequence; it is that the ointment be rubbed in for ten minutes slowly and carefully twice a day. Whatever we use the principle is the same, the steady saturation of the permeable epidermis with substances hostile to the fungus. (From Dr. Allan Jamieson's paper in the Edinburgh Medical Journal, June, 1900.)

SCABIES, THE TREATMENT OF

Dr. Sherwell (*Journal of Cutaneous and Urinary Diseases*, 1899, p. 437) gives the following simple directions :—(1) When one member of a small household has the disease, treat the other members of it as well at the same time. (2) Let all of them take a hot bath the same evening, a little sand soap (Sapolio) being lightly used over the tougher portions of the body. (3) Let them all rub their limbs lightly with about half a teaspoonful of "sulphur lotum" (washed flowers of sulphur), no excessive friction is required or desirable. (4) Place a few spots of sulphur between the sheets in each bed, lift the upper sheet and give a slight blow under it which will distribute the sulphur over the surface. (5) Next morning put on clean underclothes. (6) Repeat the whole process every second or third night for a week. The advantages are that the process is quite devoid of unpleasantness to the individual, does not make any mess, and does not produce any irritation of the skin. It is true that other methods may be speedier, but they are often highly unpleasant, and sometimes produce inflammation of the skin of long duration. We can confirm from our own experience the efficacy of this treatment. (From Dr. A. J. Hall's abstract in the Quarterly Medical Journal, May, 1900.)

Affections of the Eye, Ear, Throat, &c.

ATTIC SUPPURATIONS.

E. Ménière (*Ann. des mal. de l'Oreille*, December, 1899), though convinced that the most successful treatment in attic suppuration is excision of diseased ossicles, finds that patients will not always submit to such surgical interferences, not realising the dangerous nature of their ear disease. In such cases he resorts to energetic cauterisation of the attic by means of a saturated solution of chloride of zinc. In two cases, however, he has obtained also good results by means of the insufflation of "iodoformised ipsilene." This drug is a chloride of ethyl, holding idoform in solution, obtained by a special process. (American Journal of Medical Science, 1900, p. 374.)

CONJUNCTIVA, DIPHTHERIA OF THE.

[The following is taken from Mr. Sydney Stephenson's paper :] Our practice with regard to treatment is to inject an adequate dose of antitoxin if we suspect diphtheria, without losing valuable time by awaiting the results of a bacteriological investigation. We do not hesitate to allow the patient to be taken home after the injection, but should the specific microbe be subsequently found, we detain the child in the diphtheria ward until cured. As to local means, we generally employ a strong solution (15 per cent.) of potassium permanganate to paint over the exposed conjunctiva once a day, and a weak antiseptic lotion, such as corrosive sublimate (1 in 5,000) for cleansing the mucous membrane at frequent intervals. Should the cornea be involved atropine drops (two grains to the ounce) are used from three to six times a day. (The Lancet, February 17, 1900.)

CONJUNCTIVITIS, FOLLICULAR, IN A LIVERPOOL SCHOOL.

[Drs. K. Grossmann and M. Loewenthal report an epidemic in a Liverpool school :] We find, in conjunction with more or less slight inflammatory symptoms, the occurrence of small roundish nodules, rising hemispherically out of the surface of the conjunctiva. These nodules are globular or oval, pink or yellow or greyish, or of any transition tint between these three colours, translucent, almost jelly-like in appearance, varying in size from a millet seed to a small pea. Their surface is smooth and shining, and they are ranged in two, three, or four parallel rows, especially in the lower conjunctival sac, lying so that the long axis of the oval nodules is parallel to the conjunctival fornix. These nodules, or follicles, are generally found first in the outer half of the lower conjunctival sac. There also they reach their greatest size at an early date. They are smaller towards the tarsal portion of the conjunctiva. In the upper lid, as a rule, they are not so big as in the lower conjunctival sac, nor do they attain any size on the surface of the upper lid, but there we not infrequently notice small, round, white spots, level with the surface of the mucous membrane, and very easily seen when the latter is hyperæmic. The prominence of the follicles is often masked by serous infiltration of the conjunctiva. The development of the follicles may be slow or quick, with all possible shades of transition, the duration of the disease ranging from a few weeks to several years. (Liverpool Medico-Chirurgical Journal, February, 1900.)

EARACHE IN CHILDREN.

The following are taken from Mr. T. H. Halstead's conclusions : (1) Earache in children is generally caused by acute inflammation of the middle ear, suppurative or catarrhal. (2) Infants and young children may have suppuration in the middle ear without giving satisfactory evidence of pain, or without rupture of the drum-membrane. (3) In the absence of other known cause of pain, from which a child is evidently suffering, the first cause to be thought of should be acute otitis media, and this calls for an examination of the drum-membrane. (4) Repeated earaches in children are ordinarily but a sign of acute exacerbations of a chronic otitis media resulting from adenoids. (Medical News, March 17, 1900.)

EAR DISEASE, PREVENTION OF INTRACRANIAL COMPLICATIONS IN.

Dr. J. H. Woodward read a paper with this title. He said that in spite of free drainage through the drum-membrane the disease process might spread into the cranial cavity. To prevent this the conditions giving rise to it must be removed. In the majority of cases the objective symptoms would be a reliable guide. There were six important indications for the mastoid operation, viz. : –(1) Bulging of Shrapnell's membrane, or the upper posterior quadrant of the membrana tympani, and bulging of the inner extremity of the membrane ; (2) persistent tenderness over the mastoid process ; (3) swelling of the soft parts over the mastoid process ; (4) granulations and fistulæ in the external auditory canal ; (5) persistent and relapsing fistulæ behind the auricle ; (6) persistent, and especially offensive, otorrhœa. Retention of pus in the ear could not be regarded too seriously, and whenever incision of the drum-membrane failed to secure efficient drainage it was better to open the mastoid antrum at once than run the risks incident to delay. Persistent mastoid tenderness or swelling of the soft parts should be looked upon as an indication for operation. Fistulæ which alternately closed and opened were especially liable to be followed by sinus thrombosis. (Medical Record, May 19, 1900.)

ENUCLEATION OF THE EYE-BALL, AND ITS SUBSTITUTES.

I wish to express my belief, which is held by many other surgeons, that, even omitting all forms of morbid growths, the operation of enucleation in many instances cannot be banished from the list of ophthalmic operations, and that while at the present time such operations as evisceration with the insertion of an artificial vitreous, abscission, and perhaps the implantation of various forms of globes in Tenon's capsule, furnish better cosmetic results when they are successful than the best-performed enucleation can give, there is reason to believe that with improvement in artificial eyes and improved technique in preparation of the stump for the reception of these eyes, an almost equal improvement may be expected after so-called simple enucleation. To remove the sunken appearance of artificial eyes which have been placed upon a poor stump after enucleation, Dr. L. Webster Fox practises his operation of implantation of a glass ball in the socket, and has reported most gratifying success. It would seem that exactly the same effect ought to be secured by filling the concavity of the ordinary shell with wax or similar preparation. If, however, better results can be obtained by Fox's operation, there is no reason why it should not be more frequently performed. (From Dr. de Schwenitz's paper in the Therapeutic Gazette, April 15, 1900.)

MYOPIA, SURGICAL TREATMENT OF HIGH.

(1) Surgical treatment of myopia should be limited to those cases over 12 D. who suffer great inconvenience from their correcting lenses. The ideal cases for operation are those of 17 to 18 D. (2) The operation is mainly indicated in young adults. (3) Cases having active disease and changes in the ocular structures, such as progressive myopia, choroiditis, fluidity of the vitreous, or detachment of the retina are not applicable. (4) The dangers of operative interference are more than counterbalanced by the results to be achieved, which are mainly increase of visual acuity and of the visual field, and more extended use of the eyes, which accompany the

diminishment of the refraction. The opportunities for observation of high degrees of myopia, particularly of operation for this by the American surgeon, are limited in proportion to those of ophthalmologists in the old world. By individual reports, however, we can add our evidence to the already proved value of surgical treatment for this class of cases. (From Dr. H. V. Wardemann's paper in the Journal of the American Medical Association, December 9, 1899.)

OTITIS MEDIA, CHRONIC SUPPURATIVE.

[Mr. P. R. W. de Santi thus gives the indications for opening the mastoid] :—(1) For the evacuation of pent-up pus during the course of a chronic otorrhœa. (2) For chronic purulent inflammation of the middle ear which has resisted prolonged treatment through the external meatus and Eustachian tube. (3) The same condition when accompanied by the formation of granulations and polypi, which recur after removal, and in which carious bone is diagnosed. (4) Attic suppuration in which carious ossicles, if present, have been removed, and counter-drainage in the membrane made, and intra-tympanic syringing carried out, but without success. (5) Cholesteatomata in the tympanum and mastoid antrum. (6) Constant pain in the mastoid, pointing to sclerosis. (7) Great narrowing or closure of the external meatus from chronic inflammation or hyperostosis or exostotis. (8) In cases with a sinus leading from the mastoid or deep external meatus. (9) Facial paralysis or paresis. (10) Certain forms of vertigo. (11) In cases where general tuberculosis or lardaceous disease is threatened. (12) As a preliminary step where intracranial symptoms are suspected or actually present. (St. Bartholomew's Hospital Reports, vol. xxxv.)

SILVER SALTS IN OPHTHALMOLOGY.

[Mr. Sydney Stephenson gives the following general conclusions as to the use of silver salts] :—In my opinion, the best remedy for routine employment in the more acute forms of ophthalmia is silver nitrate, despite its several drawbacks and limitations. Largin, however, acts equally well in acute contagious conjunctivitis, while protargol is perhaps even better in ophthalmia due to gonococci. Both protargol and largin may be recommended in cases of catarrhal inflammation of the tear-passages. (The Therapist, May 15, 1900.)

STACKE'S OPERATION IN CHRONIC SUPPURATIVE OTITIS MEDIA.

Broadly, Stacke's operation consists in laying open the mastoid antrum and any diseased mastoid cells connected with it, opening the aditus leading from the antrum to the attic of the tympanum, cutting away all overhanging bone, removing the posterior wall of the osseous meatus, and in some cases removing the malleus and the incus. All morbid products, such as cholesteatoma, pus, granulations, and diseased bone, are then removed, the cavity is thoroughly cleansed and disinfected, the cartilaginous meatus slit, and the upper and lower flaps are cut away. With regard to the results of this operation the mortality in my 80 cases has been practically nil, for the only three deaths reported were brought into the hospital in a very advanced stage of pyæmic poisoning. In the successful cases the threatening symptoms quickly disappeared, the change from sullen stupidity to lively intelligence being very noteworthy. Occasionally a slight purulent discharge continues for some time; but, owing to the freedom with which the adjacent cavities have been placed in communication with the now very wide meatus, no accumulations can possibly occur, and the whole tympanum, antrum, and attic gradually become soundly healed, and can be inspected at any time by means of a speculum. In conclusion, my experience leads me to the opinion that it is safer to operate at an early period of suppurative disease, should there exist any of the enumerated indications for it, rather than wait until the processes have had time to produce signs of a more threatening character, and possibly to infect some of the intra-cranial contents. (From Dr. Percy Jakins's paper in The Lancet, February 10, 1900.)

Obstetrics and Gynæcology.

CARDIAC DISTURBANCE OF UTERINE ORIGIN.

Dr. E. Heinrich Kisch (*Deutsche Medizinal-Zeitung*, April 16, 1900) speaks of the cardiac disturbances of a functional nature reflected from the uterus, and calls attention to the organic diseases of the heart which may originate from a uterine tumour, especially a myoma. All these cases he finds markedly benefited by a thorough but careful system of treatment at a bathing resort. He points out that in the case of cardiac disturbances in women with no well-marked etiological elements, the genitals must be carefully examined, for the fault frequently lies in the uterus. (New York Medical Journal, May 5, 1900.)

CARUNCLE, VASCULAR.

The symptoms, though variable, may be divided under three heads :—(1) The only symptom complained of was a bearing-down pain and backache, a symptom which is purely pelvic and not likely to draw attention to the urethra, and yet in this case the real cause was a medium-sized growth at the meatus. Removal of the growth removed all the symptoms. There was only a little pain on touching the growth. (2) The only symptom complained of was a constant desire to pass water, and the act of urination was painless. Here complete removal of a small caruncle just inside the urethra cured the patient; the growth was very slightly sensitive. (3) Many cases come under this heading presenting the usual symptoms of great pain in the act of micturition, also pain in coitus and in standing or walking. The intensity of the symptoms varied in several cases, and the most severe cases were not always those where the growth was largest. The operation I advise is to completely remove the growth. If the whole of the growth can be seen readily by simply stretching the urethral orifice with a pair of sinus forceps, well and good ; but if not, then cut the lower part of the meatus and wall of the urethra with scissors, so that you can see the whole of the growth. This cut surface can easily be sewn together with catgut after the growth has been removed. To remove the growth, all you have to do is to take one or two pairs of the old-fashioned pointed artery forceps and catch hold of the urethral mucous membrane beyond the growth. Cut out this portion of the mucous membrane with the growth attached, then bring the edges of the wound together with fine catgut, and you will get perfect union and complete relief of all symptoms, and almost the very first act of micturition will be devoid of pain. (From Dr. Aust. Lawrence's paper in the Bristol Medico-Chirurgical Journal, March, 1900.)

COCCYGODYNIA, RECTAL MASSAGE FOR.

Dr. H. Rose, of Hamburg (*Centralblatt für Gynäkologie*, November 25, 1899) claims to have found out a cause for coccygodynia which can be treated successfully by massage with the finger in the rectum. He has met with several cases in which the pain was increased by pressure on a tender spot corresponding with the third or fourth anterior sacral foramen. In some cases there is only tenderness ; in others, in addition, there is a swelling of limited area, which he takes to be chronic œdema. In his first case he observed that pressure on the tender and swollen area, combined with gentle friction in a circular direction, caused the swelling and pain to disappear. This, however, returned after a few hours, so the manœuvre was repeated daily for a time, and then at longer intervals, until a permanent cure ensued. Dr. Rose has treated a number of cases in this way with, he says, invariably good results. The neuralgia is supposed to be due to the pressure of this œdematous swelling on a sacral nerve as it leaves the fourth sacral foramen. That the coccygeal nerve should be affected Dr. Rose thinks is due to the communications with the last sacral. Pelvic congestion favours this form of coccygodynia, so that the bowels should be kept freely open during and after the treatment. (Treatment, May, 1900, p. 206.)

DECIDUOMA MALIGNUM.

Dr. W. J. Smyly, having reviewed the literature of the subject, said that observers were now almost unanimous in believing that this was a disease sufficiently distinct to merit separate consideration. They also agreed as to its clinical features, pathological appearances, and treatment ; also as to its connection with pregnancy, and differed only as to their views concerning its histogenesis. He inclined to Veit's opinion that the disease was a sarcoma, modified by pregnancy. He also described a case which had come under his own observation. The patient, a pluripara, was delivered of a hydatidiform mole in December, 1898. She had repeated hemorrhages until May 10, 1899, when she had so profuse a hemorrhage that she was reduced to a condition of profound anæmia. The uterus was dilated, and a quantity of material resembling placenta removed, which, on microscopic examination, proved to be deciduoma malignum. Putrefaction and septic fever followed, with pulmonary symptoms and empyema preceding radical measures. She lingered two months, and then died. The microscopic specimens were pronounced to be typical examples of deciduoma malignum. (Dublin Journal of Medical Science, May, 1900.)

DYSMENORRHŒA, MEMBRANOUS.

[Dr. Nigel Stark relates a case in a girl, aged 19 years, and makes the following remarks :] As regards treatment, I may say at once that after very careful consideration, and after first of all trying the effects of drugs, I examined the patient under chloroform, and ultimately curetted the uterus very thoroughly, finally swabbing it well with iodised phenol. Two menstrual periods have now passed, and they have been unattended with pain or even discomfort. At the operation I found the uterine endometrium much roughened, the cervix eroded all round, and the external os very patulous. The vagina and cervix readily dilated, and the hymen remain unruptured.

This condition I believe to be due to the frequent dilatations which had occurred on account of the passing of the membrane every month, which, it must be remembered, was about the size of an abortion between the second and third month. I had tried the effects of treatment by the administration of iodide of potassium, but met with no success. It was given on the hypothesis that the disease was caused by some abnormal condition of the blood, such as over-tendency to coagulation. But, as I have said, I was forced to the conclusion that the disease must be of local origin, and that only by local treatment could any improvement be effected. (Glasgow Medical Journal, March, 1900.)

ECLAMPSIA: ITS PREVENTION.

An aggravation of the common subjective phenomena of pregnancy will first call attention to a beginning toxæmia. Neuralgia of rather obstinate character, irritable temper, excessive vomiting, marked salivation, a heavily coated tongue, hebetude, and other signs of inactivity of the liver, are indications that the organs of defence and elimination are beginning to feel the strain put upon them. The routine examination of the urine of pregnant women for albumin is not enough to determine the appearance of dangerous symptoms. For practical purposes the percentage of urea, the specific gravity, and the amount voided must be determined. For graver cases showing marked toxæmia, with the percentage of urea diminished below one per cent., the specific gravity below 1,010, and the quantity of urine reduced to 803 or 1,000 grammes, the most active treatment is demanded. This should include rest in bed, the patient occupying the genupectoral position at intervals compatible with her comfort. An exclusive milk diet until marked improvement occurs is essential. The free use of normal salt solution I have found of greatest advantage. The patient should be placed in the Trendelenburg posture and the colon daily flushed with at least two gallons of salt solution. In very urgent cases hypodermoclysis may be desirable. A hot-air bath or a hot pack should be reserved for cases so alarming as to threaten the necessity for terminating pregnancy. Of all drugs available for the rapid elimination of waste material I have learned to place most confidence in Epsom or Rochelle salts. There exists considerable difference of opinion as to the necessity for terminating cases of pregnancy in cases of threatening toxæmia, and it requires good judgment and a large experience with these cases to decide in individual instances the safe course of action. (From Dr. R. C. Norris's paper in Therapeutic Gazette, December 15, 1899.)

FIBRO-MYOMA AND HEART DISEASE.

Dr. Thomas Wilson said that the symptoms and signs of serious organic affection of the heart were not unfrequently found in association with the presence of a uterine fibroid, and the conjunction was sometimes causal, the tumour of the womb growing in a patient already the subject of heart disease. It was pointed out that the heart symptoms might be thus greatly aggravated. In a much larger number of cases the connection between the diseases of the two organs was causal, the heart affection being set up by the growth of the fibroid, or both being dependent on a common cause. Occasionally the heart might be affected directly by the pressure of a very large cystic fibroid, or indirectly by a tumour pressing on the ureters and so leading to renal degeneration, which in its turn led to cardiac changes. Much more commonly a fibroid of moderate size led through menorrhagia to anæmia, and thus to cardiac dilatation or degeneration ; or, again, in the early stages of the growth of a tumour cardiac hypertrophy might be found, and this latter might give place to dilatation and degeneration. It was pointed out that after a successful operation the heart tended to recover its tone in a really remarkable degree. The author further pointed out that the presence of the cardiac disease favoured the occurrence of thrombosis both before and after operation ; it formed a contra-indication to the use of ergot in the treatment of the fibroid, and it might be an important and even urgent indication for operative interference. When an operation was undertaken every effort should be made to reduce as far as possible the severity of shock and the risk of subsequent heart failure. Ether was usually the best anæsthetic, and the free use of strychnia hypodermics and saline subcutaneous infusions, or even venous transfusion, might be required. The risk of sepsis was distinctly greater than usual, and early stimulation and feeding were of the utmost importance. (Medical Press and Circular, May 9, 1900.)

FIBRO-MYOMA, TREATMENT OF.

Dr. F. A. Lockhart thus sums up :—(1) A uterine fibroid should not be interfered with unless it is giving rise to serious symptoms, be they mental or physical, notwithstanding the statement of one gynæcologist that he removes all fibroids which he meets with in practice, whether they are causing trouble or not. (2) Curetting is merely a palliative measure, as is also, in many cases, ligature of the uterine arteries. (3) Removal of the appendages ought to be merely a *dernier ressort*, as it practically never cures and does not always even relieve. (4) The operation of selection should be either total hysterectomy or else myomectomy. (5) Myomectomy is to be chosen (*a*) where the tumour is sub-mucous and pedunculated; (*b*) where it is sub-serous, and either has a pedicle or a well-defined border; (*c*) where several small nodules lie immediately beneath the peritoneum. (6) Total hysterectomy is indicated (*a*) where the tumour is sub-mucous and non-pedunculated, and the cervix cannot be dilated sufficiently to allow of morcellement; (*b*) where the tumour is either interstitial, large and sub-serous, without a pedicle, soft, fibrocystic, or undergoing degeneration; (*c*) where the tumour is complicated by diseased adnexa. (American Gynæcological and Obstetrical Journal, December, 1899.)

FORCEPS.

Dr. W. Macfie Campbell, in his address on the midwifery forceps, thus gives briefly his own principles of action:—(1) I would premise that a prolonged first stage is always safe to mother and child, provided the membranes are intact and the presentation is natural. (2) During that stage it is seldom necessary or advisable to give an anæsthetic. (3) If a malpresentation be diagnosed it may be necessary to correct the presentation by conjoined manipulation, or if the corrected presentation does not remain permanent, to rupture the membranes, and possibly turn, or apply the long forceps. (4) That exhaustion is sometimes found in a protracted first stage, especially where the waters are lost prematurely, and it may be needful to dilate and extract, or dilate in extracting by the forceps. (Liverpool Medico-Chirurgical Journal, February, 1900.)

GYNÆCOLOGY, OBSTETRICAL PROPHYLAXIS IN.

Dr. J. C. Edgar (*Annals of Gynæcology and Pediatry*, February, 1900) says that during labour we can directly do much to prevent serious troubles, which may lead to invalidism for a long period—chiefly in three ways: first, by limiting the duration of labour; second, by promptly treating all injuries, the result of labour; third, by the observance of strict asepsis. The effects of prolonged labour are well known, and no definite rules for the use of forceps can be given; but it must be realised that injuries may be produced by the too early use of the forceps as well as by too long a delay in their use. Lacerations are commonly sewn up, but too often the really important structures of the pelvic floor, *i.e.*, the muscles (levator ani) are left unrepaired and permanently damaged. Also the antiseptic precautions taken in sewing up lacerations are often not what they should be. Lacerations thus often become the seat of inoculation of puerperal septic diseases. At the same time, the author does not recommend the immediate repair of cervical lacerations. In the puerperium the efforts of the obstetrician are directed towards securing the best possible involution of the uterus. The author pleads for a routine examination of every woman before getting up from the puerperium. In that way only could slight departures from normal involution be detected. The practice of lying on the side and the abdomen and the back alternately is recommended, as favouring involution by providing better drainage of the lochia, and preventing congestion. (From Dr. Stevens's abstract in Treatment, May, 1900.)

HÆMATOCELE, PELVIC.

Dr. G. E. Herman relates two cases. He says that operation was done for a different purpose in each case. In the case in which the blood was free in the abdomen, operation was done to stop the bleeding, and so to prevent death from hemorrhage. In the case in which the clot was contained in a space limited by adhesions, it was not done to save life, because the patient's life at that time was in no danger. It was done to save the patient from a long illness. If operation had not been done in the first case, the bleeding might have gone on until the patient died. It is not certain it would have gone on, because in some of these cases, when the patient has got very collapsed, the bleeding has stopped, and the patient has ultimately got well. But one cannot count upon that occurring. Therefore the necessary treatment, when there is bleeding in the abdomen, is to open the abdomen and get at the bleeding part. In the other case, if the patient had been left alone, the probability is that she would have got well ; but it would have been three or six months before she did get well. The tumour might have suppurated, and I think it probably would have done so, because her temperature was somewhat raised. (The Clinical Journal, February 14, 1900.)

HEMORRHAGE, POST-PARTUM.

Dr. J. Z. Carrie draws the following conclusions :—(1) A knowledge of the source of the hemorrhage is necessary to ensure intelligent action. (2) All rents when easy of access should be repaired at once. (3) If the body of the uterus is contracted and bleeding excessive, and in all cases of hemorrhage following placenta prævia, the whole cavity should be tamponed at once. (4) If this is not successful, or if the hemorrhage is constant and not excessive, secure the bleeding vessels and, if possible, repair the injury. (5) If atony exist and hemorrhage not excessive, use external and bimanual compression of the uterus, followed, if necessary, by hot water, vinegar, or acetic acid. (6) If not successful, or if atony exist with excessive hemorrhage from the outset, tampon at once after using hot water. (7) Give morphia hypodermically to check the hemorrhage, and stimulants, strychnia, and auto-infusion to overcome the effects of the hemorrhage. (8) To prevent anæmia use saline solution, preferably per rectum or hypodermically. May use saline solution by infusion also, if necessary. (Boston Medical and Surgical Journal, November 16, 1899.)

HEMORRHAGE, PREVENTION OF POST-PARTUM.

Remembering that exhaustion is the great cause of bleeding, the patient's strength must be carefully preserved. During the first stage of labour she should receive liquid food in small quantities, as frequently as she can take it, and, if necessary, stimulus as well. Loss of sleep during the first stage of labour must be reduced to a minimum by the use of appropriate sedatives. Gr. x. of hydrate of chloral given in syrup and water, either by the mouth or by the rectum, may be repeated three times at hourly intervals to advantage in many cases. In other patients, gr. xx. of bromide of ammonium gives good results. In other patients, gr. x. of trional taken with broth, soup, or with a tablespoonful of whisky in hot water, causes several hours of refreshing sleep. Care should be taken that the bladder and rectum be frequently emptied, that unnecessary irritation of the bladder and delay in labour may be thus avoided. A warm bath at the beginning of labour often lessens the irritation, and pain which the patient suffers. An experienced nurse will carry her patient through the first stage of labour in good condition by those arts of nursing which conduce so much to her comfort. Obstetric nurses should be trained to utilise the best postures for patients during this stage of labour, and thus suffering may be reduced to a minimum. (From Dr. E. P. Davis's paper in the Medical Record, January 3, 1900.)

LACTATION.

The statistics recorded in this paper were collected for the purpose of ascertaining what proportion of women amongst the poor in London are able to suckle their children. In view of the increasing number of mothers amongst the upper and middle classes who are unable to suckle, often from an absolute insufficiency of milk, it becomes an interesting question as to whether the generally accepted opinion is true or not: that nearly all the women of the lower classes are able to nurse their children. The fact that out of the total of 1,000 women only 11 multiparæ were unable to suckle any of their children owing to their having no milk tends to confirm the view that amongst the London poor, at any rate, it is quite the exception for a woman to be prevented from suckling by an insufficiency of milk. The difficulties in obtaining accurate results in such an investigation are very great, since the majority of the facts depend upon the women's statements alone. (From Dr. G. F. Blacker's paper in the Medical Chronicle, February, 1900.)

MENOPAUSE AND HEMORRHAGE.

Dr. J. Milton Duff (*Amer. Jour. of Obst., &c.*, November, 1899) says that hemorrhage is not a necessary concomitant of the menopause, and when it occurs, otherwise than as a menorrhagia in the true sense of that term, it is in 95 per cent. of the cases significant of a pathological condition. In all cases of persistent hemorrhage, a careful physical examination should be insisted upon. "During the past three years I have interrogated, or had others do it for me, 482 healthy women over 52 years of age; of these only 39 gave a history of what could be termed a hemorrhage during the menopause, and out of this number only five gave a history of hemorrhage of any persistency. In 187 tabulated cases between 43 and 50 years of age suffering from uterine hemorrhage, 19 were due to pregnancy, 48 to malignant disease, 53 to fibroids or uterine cysts, 10 to diseased endometrium, 26 to diseased appendages, while in 31 no positive diagnosis was made." In view of such statistics hemorrhage during the menopause is very significant of disease. (British Journal of Gynæcology, February, 1900.)

MENORRHAGIA IN YOUNG GIRLS.

Dr. Armand Siredey (*Journal des Practiciens*, December 16, 1899) says that the treatment will depend upon the pathologic condition which causes the hemorrhage, and it is rare that one is compelled to treat the bleeding directly. In cases of extreme necessity, however, we may use very hot douches; simple or with gelatine solution, small quantities of fluid frequently repeated (200 cc.). Rectal irrigations with very hot water by means of the double current tube may be used for a considerable length of time. The application of ice to the abdomen, the administration of ergotin by mouth, by rectum, or hypodermatically, are measures which will seldom fail to arrest the bleeding. Above all, complete rest in bed is an essential part of the treatment. (Pediatrics, May 15, 1900.)

NIPPLE, WOUNDS OF.

Platzer (*Archiv für Gynäkologie*, 1899, Band viii., Heft 2) comes to the conclusion that cracked nipples are caused by the infant, and that there is no other cause. The wound is either caused by the bite the child can give with its gums, or the traction on the nipple which it makes, or the macerbation of the nipple epithelium, either from the milk or the secretions from the child's mouth. Badly-formed nipples are undoubtedly more liable to injury than normal ones. Bruising of the nipple by the child's jaws results in a small extravasation of blood between the epidermis and corium ; soon the epidermis is rubbed off, and a wound appears. These wounds may be quite superficial or may be deep, forming mere excoriations or deep fissures. In any case, if untreated, they heal very slowly, owing to their constant opening up during suckling. If they become infected, mastitis will supervene, and will be marked by a rise of temperature ; otherwise, fissures alone, if clean, do not give rise to fever. These wounds were found to occur, as a rule, in the first seven days of suckling. For treatment, compresses of 2 per cent. carbolic acid applied wet seemed to give the best results, in combination with the use of the nipple-shield, or giving up suckling from the particular breast for twenty-four to forty-eight hours. If mastitis appeared, as shown by fever and pain and swelling of the gland itself, suckling was stopped at once, and pressure applied by means of a bandage and an ice-bag put on outside. (Dr. Stevens's abstract in Treatment, March, 1900.)

OVARIAN FEEDING.

That ovarian extract has a specific action of a beneficial nature, in certain instances, where, after removal of the ovaries, vasomotor irregularities cause marked symptoms, I am quite convinced from observations on many cases. The flushings and headaches, which in those cases are such disagreeable sequelæ to this operation, can frequently be relieved. That this agent is intimately associated with menstruation is supported by the recurrence of that function, in some cases of amenorrhœa, where the extract has been given. Of three cases in which I have successfully treated amenorrhœa by this means, none have subsequently become pregnant ; in two of these only, menstruation continued after the extract had been stopped. It is doubtful, therefore, whether any recurrence of ovulation was attained. Though the results thus acquired have been but partially successful, they seem to warrant future attempts. Particularly beneficial, however, is the use of ovarian extract in diminished menstruation where the woman suffers from obesity and symptoms of full-bloodedness. In some instances the flow is markedly increased along with amelioration of symptoms, in others the symptoms are relieved without any appreciable change in the amount of the flow; also in cases where the completion of the climacteric is irregular. When the cessation of menstruation is associated with similar manifestations of plethora, ovarian extract may often be given with much benefit. The adoption of this method of treatment, even if unsuccessful, has the advantage of the fact that it is entirely harmless: 40 grs. daily may be administered without untoward symptoms, while the usual dose necessary is only 15 grs. per diem. (From Dr. F. W. N. Haultain's paper in the Edinburgh Medical Journal, 1900, p. 346.)

OVARIOTOMY, PREVENTION OF HERNIA AFTER.

Dr. A. Martin (*Sammlung Klin. Vorträge*) discusses ventral hernia. Extra-peritoneal treatment of the pedicle, abscess formation in the wound, and drainage all favour the later development of hernia, through the wide and irregular cicatrix that forms. The most important essential for prevention of hernia is the careful adjustment of sutures in layers, instead of suturing in mass, and in support of this the writer adduces the statistics of Winter, Abel, and his own, all showing a distinct diminution in the number of herniæ since the introduction of suturing in layers. An equally valuable factor is union by first intention. But in a certain number of cases, in spite of asepsis and suturing by layers, hernia will form. He always makes his patients wear a binder, but pads should not be worn. After a year or two the bandage can be replaced by a corset reaching to the pubes with an elastic inlet. Hernia can often be avoided by a carefully-regulated diet. He remarks on the fattening treatment now too much in vogue, that often in later years leads to the stretching of cicatrices and the formation of herniæ. As regards the treatment of herniæ, as a rule they cause little disturbance, and as they show but little tendency to cause incarceration, the support of a belt or corset is generally all that is required. In extreme cases operation must be performed, including suturing in layers again. The hernial sac should be removed so thoroughly that the whole of the peritoneal covering is removed. (Medical Press and Circular, February 7, 1900.)

OVARY, SARCOMA OF.

Ovariotomy being the only possible mode of treatment, one naturally asks what chances of success attend operation. The most that at present can be said is that with early diagnosis the prospect does not seem to be so gloomy as has been supposed, but certain factors have to be reckoned with. Given a case of round-celled sarcoma affecting both ovaries, a fatal result is inevitable; but the prognosis is fair if the disease is confined to one ovary (Pick), and good if it is of the spindle-celled variety. The prognosis will be still better if the view of Gebhardt, that a slow fibromatous change precedes the malignant degeneration, is correct, and support is given to this by the alleged prolonged duration of the disease in several reported cases. Pfannenstiel claims to have obtained cures in seven out of fourteen cases, but all these were examples of spindle-celled sarcoma. Obviously, everything depends on early diagnosis. I would, therefore, formulate this rule:—Given the case of a young and fairly healthy woman who has more or less suddenly become the subject of anomalous or ill-defined symptoms of disease, and more especially if these are of the nature of epigastric pain and vomiting which cannot be accounted for on ordinary grounds or corrected by appropriate remedies, a thorough examination of the pelvic organs should be made in anæsthesia with the view of excluding or recognising a possible cause of the disease in ovarian sarcoma. (From Dr. A. Roxburgh's paper in the Glasgow Medical Journal, December, 1899.)

PELVES, ABNORMAL.

Dr. E. P. Davis (*Amer. Obstet. Jour.*, January, 1900), after an examination of 1,224 patients who were of all races inhabiting the United States (except the Chinese and Indian), who were examined by pelvimetry and palpation both external and internal, considers himself justified in formulating the following conclusions:—(1) Among child-bearing women of the United States of the white and negro races, 25 per cent. have pelves smaller than the average and 7 per cent. have pelves larger than the average. (2) Four-fifths of the patients having abnormal pelves delivered themselves spontaneously. The operations most suitable for well marked pelvic contractions and most successful for mother and child are the induction of premature labour, symphysiotomy, and Cæsarean section when the mother is uninfected and the child in good condition, and embryotomy when the mother is infected and in bad condition and when the child is dead or likely soon to die. (3) The general mortality rate and septic mortality rate of all classes of labour and of labour in abnormal pelves compare favourably with the results obtained by modern medicine and surgery when obstetric practice is conducted in accordance with the modern scientific knowledge of the subject. (Montreal Medical Journal, February, 1900.)

PELVIS, KYPHOTIC.

Dr. J. B. Hellier described before the Leeds and West Riding Medico-Chirurgical Society a case of kyphotic pelvis in which the transverse diameter of the pelvic outlet was reduced to 1⅜ inches. The patient was 4 feet 8 inches in stature, and had lumbo-sacral kyphosis due to injury in infancy. She was admitted into the Leeds Infirmary on Christmas Day after having been 24 hours in labour. The uterus was in a state of tonic spasm, and the head was impacted against the ischial spines. She was delivered by craniotomy. (The Lancet, March 10, 1900.)

PERINEORRHAPHY.

Dr. C. J. Cullingworth, after describing the operation which he employs, speaks thus of the after treatment. There are several points in regard to the after treatment that are of considerable importance. The catheter is usually required for the first two or three days. Then as to the best means of keeping the parts clean. I instruct my nurses to content themselves with keeping the external parts clean by the frequent use of wool sponges and warm water, more particularly after each act of micturition. Vaginal douching is only resorted to where there is a purulent or offensive discharge. It was once the fashion to tie the patient's ankles together, and to deprecate all voluntary movement of the lower limbs during convalescence. My patients are at liberty to assume any attitude they please provided they remain absolutely recumbent for at least fourteen days. Change of attitude within the range indicated in no way imperils the result of the operation. I have tried the plan of going even further, and allowing patients in simple straightforward cases to assume the sitting posture on the tenth or twelfth day, but have invariably regretted the experiment. As regards aperients, the object to be aimed at is to ensure that the first fæcal evacuation shall be passed painlessly, and without the necessity of any straining effort. To secure this no plan has been found to answer so well as that of administering a full dose of castor oil (a fluid ounce) early in the morning of the fourth day (counting the day of operation as the first day), that is, about sixty-five hours after the operation. This is almost invariably found to result in the easy passage of a semi-solid motion within the course of about two hours. The patient is instructed to make no straining efforts, and indeed seldom feels tempted to make any. If this quantity of castor oil has no effect, the dose is to be repeated in four hours. Enemata are, if possible, to be avoided from fear of their causing local disturbance. An aperient every other day will usually suffice during the remainder of the time the patient is in bed. The sutures are generally removed on the eighth day. The vaginal stitches may be left a few days longer if it be felt necessary. Sometimes when the perineal sutures are removed, it becomes apparent that healing is imperfect in the central portion. This need cause no anxiety; the little pit becomes quickly filled up by granulations, and the resulting perineum suffers no detriment. Very occasionally a little fæcal discharge is found oozing from the perineal wound. This is, of course, somewhat disquieting, but the discharge usually ceases without any active intervention. It is otherwise if the fæcal discharge is within the vagina. This means that there is a direct communication between vagina and rectum, and spontaneous closure in such a case is less frequent. This is extremely rare. It only remains for me to say a word as to the most suitable time to choose for submitting the patient to operation. In the first place it may be laid down as an axiom that the operation should not be undertaken until the cicatricial process is complete. If this rule is not adhered to, the operator will find the tissues soft and friable, and quite unsuited for the strain of a plastic operation. Patients are often importunate in their desire for an early operation, but it must be remembered that to yield to this importunity is to court failure. My own rule is never to operate until two months after the occurrence of the accident. (St. Thomas's Hospital Reports, vol. xxvii.)

PREGNANCY, PAIN IN ECTOPIC.

Pain alone, when not accompanied by a clear history of menstrual irregularity, symptoms of pregnancy, and the presence of a tumour at the side of the uterus or in Douglas' pouch, known to be of recent development, is pathognomonic of extra-uterine pregnancy only under certain conditions, viz.: the pain is of a sharp colicky character, distinctly localised on one side, attended with faintness more or less marked, and is usually followed by intervals of hours or days of complete remission. The pulse is accelerated during the attack, but there is no rise of temperature. The latter is an important symptom distinguishing ectopic from inflammatory conditions. The violent tearing pain attending intraperitoneal rupture is accompanied by the unmistakable evidences of internal hemorrhage. In extraperitoneal rupture the symptoms vary in severity according to the amount of blood lost, but soon subside, being succeeded by the usual evidences of pressure resulting from a mass in the folds of the broad ligament which displaces the pelvic organs. A persistent pain following the acute attack may indicate localised peritonitis. (From Dr. Henry C. Coe's paper, Medical News, April 21, 1900.)

PREGNANCY, VOMITING OF.

Dr. D. J. Evans summarises his conclusions as follows:—(1) There exists more or less of a rhythm in the paroxysms of nausea and vomiting in pregnancy. (2) There must also exist a rhythmical exciting cause for these paroxysms. (3) There is a rhythm in the contractions of the uterus which occur throughout pregnancy. (4) The essential exciting cause of the paroxysms of nausea and vomiting of pregnancy is frequently the physiological contraction of the muscular fibres of the uterus. (Montreal Medical Journal, February, 1900.)

PREGNANCY, VOMITING OF.

Dr. H. S. Knight gives the following indications for emptying the uterus:—(1) Inability of retaining any food taken by the mouth; (2) intolerance of rectal enemata; (3) more or less albuminuria; (4) progressive emaciation; (5) headache constant; (6) frequent and feeble pulse; (7) a certain apathy of the patient. (Boston Medical and Surgical Journal, May 17, 1900.)

PRESENTATIONS, FACE.

Dr. Frank B. Earle said that when the chin is anterior the patient better be left alone; but when it comes down under the symphysis pubis, nature will terminate the labour ordinarily, or it can be terminated with forceps. When the chin comes down posteriorly, then the obstetrician has a position from which it is impossible for the child to be born, and correction is needed. One of three or four things must be done: The head must either be flexed or rotated anteriorly, or podalic version must be resorted to, provided the child is living. If the child is dead, embryotomy or delivery by forceps, bringing the child through without change of position, should be considered. He considers the mortality of face presentations, as given in text-books, too high. (Journal of the American Medical Association, December 2, 1899.)

SEPSIS, ACUTE PUERPERAL.

Dr. Hiram N. Vineberg brings out the following points in his paper:—(1) Puerperal sepsis is wound fever or wound infection, and wound infection in the female genital canal, as elsewhere, calls for surgical measures, such as free drainage, irrigation, and the removal with a sharp instrument of any débris or exudate that may form on the surface of the wound. These means failing to accomplish the desired result, ablation of the diseased organ or organs as a *dernier ressort* is indicated. (2) In a given case of puerperal sepsis a thorough search is to be made of the whole of the genital canal in order to determine the site of the original infection. (3) If this is situated in the uterus, curettage, drainage, and irrigations are to be employed. In 95 per cent. of the cases of puerperal sepsis nowadays met with this plan of procedure will be all that is necessary to bring about a cure. (4) In the remaining five per cent., roughly speaking, these measures will not be efficacious to arrest the progress of the infection, as will be evidenced by the pulse, temperature, general course of the disease, and sometimes by local signs. An exploratory laparotomy is then indicated, the further course to be guided by the pathological lesions found. In most of these cases total hysterectomy will be required. (5) When large collections of pus form, and are so situated that they can be readily reached either with a vaginal incision or with one above either of Poupart's ligaments, no time should be lost in resorting to surgical relief. When, however, they are not so favourably situated, judicious delay is advisable, with the hope that ultimately the pus may be evacuated without the risk of soiling the general peritoneum. Such a course not only averts the risks to which the patient would be exposed by a more radical procedure, but affords her an opportunity of being restored to health with the conservation of her sexual organs. (American Journal of Medical Science, January, 1900.)

SEPSIS, HYSTERECTOMY IN PUERPERAL.

Prochownick (*Monatschrift für Geburtshülfe und Gynäkologie*, 1899, Band ix., Heft 6) contributes a very interesting paper upon this subject. He draws attention to the fact that the mortality of the puerperal state has not been lessened as greatly as was hoped when antiseptic precautions began to be taken in labour. He has found the treatment by serum useless, and has given attention to the problem of finding out when the septic puerperal uterus should be extirpated. It is evident that this serious procedure is justifiable only when it is positively known that the uterus is the site of the infection, when other means have been employed without result, and when the patient is evidently growing worse. He calls especial attention to the importance of studying each case during the first two days of the puerperal period without disturbing the patient by prolonged examinations. Each puerperal patient who has fever should be kept as quiet, as clean, and as comfortable as possible. The pulse, temperature, and respiration should be carefully recorded every four or six hours. Especial importance is attached to the condition of the pulse. The intestine should be emptied once in the most thorough manner possible. The patient should be once examined very carefully and thoroughly. If the pulse reaches 100, the heart, the lungs, and the spleen should be examined thoroughly, and the urine should be taken by catheter and subjected to examination, and the lower portion of the birth-canal should also be examined. Lacerations, either closed or without suture, and fissures in the perineum and vagina should be thoroughly examined. If no focus of infection is found, and the pulse does not exceed 100, no further examination of the birth-canal should be made. When the patient's condition is serious, and she has chills, high fever, a small and rapid pulse, the vagina should be douched with warm sterile water, and some of the lochial discharge should be taken from the cervix. A careful bimanual examination should also be made. These measures, however, can rarely be carried out satisfactorily in private practice, and it is evident that some other method giving positive information is very desirable. The writer sums up his experience by stating that he cannot decide upon extirpation of the uterus from the results of examination of matter taken from the vagina or uterus, but that he considers the examination of the blood of far more importance. If pyæmia is present, complicated with tumours in the pelvis, suppurating portions of the ovum, or septic criminal abortion, extirpation of the uterus is not indicated, because it can rarely save the patient. If, however, it is evident that the uterus alone is pyæmic, and that these complications are not present, then the removal of the uterus may be followed by a good result. (From American Journal of Medical Science, February, 1900.)

TYPHOID FEVER IN THE FŒTUS.

Fœtal typhoid fever of the primary septicæmic type is a frequent, though by no means the only, cause of the abortion which so commonly occurs during the disease. Experimentally it was shown many years ago by Chantemesse and Widal that the placenta formed no bar to the typhoid bacillus, and at the present time a considerable number of cases are on record in which the micro-organism has been found in the human fœtus. One of the most interesting of these is the following, observed by Dr. Andrewes, in the case of a fœtus from a woman suffering from typhoid fever, who aborted in the fourth month during the epidemic at King's Lynn. The typhoid bacillus in this instance was found in pure culture in the heart's blood and also in the spleen. Though the bacillus may be found in the blood and in many of the internal organs, the intestine is always natural, and this indeed is what we might expect, seeing that the bacilli having broken through the placental barrier pass directly into the circulating blood without coming first in contact with the alimentary canal. Typhoid fever, then, in the fœtus is an example of a primary typhoid septicæmia. (From Dr. Horton-Smith's lectures, The Lancet, March 31, 1900.)

UTERUS, RUPTURE OF.

Dr. A. V. Wendell arrives at the following conclusions :—(1) In threatened uterine rupture the woman is to be delivered at once by the method which does not increase the excessive intra-uterine tension. (2) After rupture occurs, delivery by the natural passages is permissible only if the uterine injury is not aggravated thereby. (3) If the true conjugate diameter of the pelvic inlet measures less than 8 cm. a completely intra-peritoneal fœtus should be delivered by abdominal section. (4) But if the conjugate measures 8 cm. or more, the uterus should be removed by vaginal hysterectomy and the child delivered by the feet through the natural passages. (5) If life is detected in the child after the mother's death, the post mortem section should be performed. (6) The uterine tamponade is useful only as a dressing to prevent intestinal prolapse or to retain reposited loops of intestine within the abdomen until the case can be submitted to operation. (7) Conservative surgery exposes the woman to the serious risk of subsequent rupture, and should therefore not be elected unless expressly commanded by the patient or immediate relatives. (8) Vaginal suture is open to the objection that bleeding arteries in the parametrium are apt to be overlooked. (9) When laparotomy becomes necessary for the birth of the fœtus, the uterus is to be removed by supra-vaginal amputation, with extra or intra-peritoneal treatment of the stump, according to the exigencies of the case, or ability of the practitioner. (10) Vaginal hysterectomy is the elective procedure in all cases, but should be supplemented by abdominal section whenever necessary. (Medical Record, May 26, 1900.)

UTERUS, MEASUREMENT OF INVOLUTION OF.

(From Mr. Maclennan's paper.) This method of estimating the rate of involution is that which has been fully described in a paper by Stevens and Griffiths. Briefly, it is as follows :—Taking the crest of the pubes as the fixed point, the fundus is located by palpation, and the distance measured with a ruler. The time of day chosen was (in my cases) between eight and nine a.m. and eight and nine p.m. The usual precautions were taken, such as having the bladder and rectum empty as far as ascertainable, the uterus in the middle line, and hardened by the application of a little massage. For the purposes of registration Stevens and Griffiths' method, as adapted to the temperature chart, was employed. Taking the line of 100 degs. temperature to indicate the base, each degree of temperature represents an inch of possible fundus elevation. In this way the daily measurements may be charted with the temperature. This external measurement of the fundus elevation takes no account of the cervix; still, for practical purposes, it serves as a valuable index to the progress of the puerperium. *Remarks.*—Finally, I would advocate the registration of the rate of involutions, daily, at least, for the following reasons. The hardening of the uterus from digital external manipulation can do nothing but good, and the heights when charted give indications for—(1) The administration of purgatives, ergot, &c. (2) When it is safe and advantageous to allow the patient to rise. (3) For the intra-uterine douche. (4) For curettage. (5) Diagnosis, treatment, and prognosis, regarding which there has been previously paid too little attention. Practically, no literature that I had access to looks at this subject from the point of view of either diagnosis, treatment, or prognosis. (Glasgow Medical Journal, April, 1900.)

UTERUS, TREATMENT OF CARCINOMA OF.

Dr. Kelly describes his own method as follows:—(1) The removal of all the tissues down to the point where the infiltration was deepest, and (2) the concentration of all the energy of the operator on the most complete removal of this last segment. A thorough curettage was first done, and then the vagina was divided on all sides one inch below the diseased area. The vesico-uterine peritoneal fold was widely opened, as was also the posterior cul-de-sac. The uterus was then brought out through the anterior opening. The peritoneum posteriorly was well protected by gauze packing. The uterus was next bisected from fundus to cervix with scalpel and scissors; this was attended with very little hemorrhage. The uterus was next caught by the cervix with two pair of forceps, and was split again and removed. The next step was to begin the enucleation on the side which was the less diseased. Up to this point the operation was very simple. These preliminary steps secured the maximum of room and mobility. This operation was, of course, done through the vagina. It was a question in his mind whether the ligature or cautery was better. Much credit was due to Dr. John Byrne for his persistent advocacy of the use of the actual cautery in advanced cases of carcinoma of the uterus. (From Dr. Howard Kelly's paper in the Medical Record, May 19, 1900.)

UTERUS, TREATMENT OF CARCINOMA OF.

At the outset it must be distinctly understood that the disease is in the beginning an entirely local one. If the disease were always detected early, while still limited to the angle of the tear or to the mucous membrane of the uterus, total extirpation would in most cases be followed by cure. Unfortunately the majority of women do not consult the practitioner during this early stage; while too often, in the case in which he is consulted in good time, precious weeks and months are lost in cauterising it instead of sending the patient at once to a specialist for vaginal hysterectomy. For one or other of the above reasons the patient reaches the latter in the majority of cases too late to render vaginal hysterectomy either possible, or at any rate of much use. One widespread and potent factor in causing this delay is the prevalent idea that irregular hemorrhages after the menopause has taken place are a sign of returning youth. It is also important to counteract and contradict the general opinion that the case is utterly hopeless from the beginning in every case. As a matter of fact, it is only the delay which makes the case hopeless. Provided that the organ is freely movable, even if the disease has invaded the whole of it, vaginal hysterectomy with ligatures gives good results. If a little less movable, the clamp method is more feasible. Olshausen's double curved needle is a great help in passing the ligatures in cases in which it is a little difficult to draw the uterus down. If firmly fixed and the disease has extended to the broad ligament, a thorough curetting and the application of pure carbolic acid freely to the mucous membrane lining the uterus will retard the progress of the disease and add greatly to the women's comfort. This may be followed by a Schroeder's amputation of the cervix, but before closing up the flaps it is well to sear them lightly with the cautery in order to destroy the microbes. This has prolonged life from two to five years, and in one case the woman has since been confined twice, and is still alive. In the writer's opinion it is a great mistake to remove the uterus when the broad ligaments are affected, as the disease only progresses more rapidly than if left alone. Such a case came under the writer's notice while this paper was being written. As the broad ligaments were clearly involved, I very thoroughly curetted, with great benefit. With regard to the operation advocated by

Polk and others, to tie the internal iliac arteries and then remove the uterus, and to dissect out the lymphatic glands, while the operation is quite feasible with the help of the Trendelenburg posture, yet, judging from the writer's experience, it does not save the patient, for in cases in which the broad ligament and pelvic glands are infected, the disease has become constitutional, and the patient dies sooner than if we left her alone. Our only hope, therefore, lies first, in prevention, by repairing all the lacerated cervices, and second in cure by early diagnosis and removal of all the diseased area. An important point which should be carefully observed is that all cut surfaces should be thoroughly washed before completing the operation, to avoid the danger of reinfection. (From Dr. L. Smith's paper in the Journal of the American Medical Association, November 25, 1899.)

VENTRIFIXATION, PREGNANCY AFTER.

Dr. Braithwaite read a paper upon two cases of ventrifixation in which, subsequently, pregnancy took place, and both of these were delivered at full term. In one there was a good deal of pain in the line of the incision, evidently from dragging of the enlarging uterus upon this fixed point. Nevertheless, all went well in the end, but there was inertia of the uterus towards the end of the labour, and forceps had to be used. In the second case the patient was practically without symptoms referable to the operation. Dr. Braithwaite emphasised the following points in this operation in order to ensure non-interference with expansion and mobility of the uterus during pregnancy: First, the abdominal incision must be made down to, but not through, the peritoneum; secondly, the peritoneum was to be opened in the upper part of the incision only; thirdly, the uterus was to be fixed to the peritoneum belonging to the lower half of the wound by about three catgut sutures. The point of attachment must be made as low down in the anterior surface of the uterus as possible, so as to just avoid the bladder. It might be supposed that when the operation was done in this manner the adhesion would not be permanent, but out of about thirty operations in only one did the uterus subsequently become free. (Abstract of a paper read before the Leeds and West Riding Medico-Chirurgical Society, British Medical Journal, June 16, 1900.)

VENTRIFIXATION, DYSTOCIA AFTER.

(By Dr. X. O. Werder.) In quite a considerable number of ventrifixations performed by me I have accurate knowledge of at least five patients who subsequently became pregnant and were delivered at term. Three of these had normal gestations and labours. In one, not strictly belonging to this class, in which the uterus was fastened to the abdominal wound after myomectomy, with extra-peritoneal treatment of pedicle by means of an elastic ligature, the fundus sloughed, resulting in an abdomino-uterine sinus which persisted during pregnancy, and through which there was a periodical, more or less profuse bloody discharge from the placenta. The patient was delivered of a living child three weeks prematurely ; the child survived, and the mother made a good recovery. (American Journal of Obstetrics, November, 1899, p. 615.)

VULVA, PRIMARY TUBERCULOSIS OF THE.

A. Rieck (*Monatschr f. Geburtsh u. Gynäk*, Bd. ix., Ht. 1) relates a case of a woman without hereditary taint, whose husband had died of phthisis, who was the subject of a slowly advancing ulcer of the vulva, with elephantiasis of one of the labia minora. It was doubtful whether the bacilli found in the discharge from the ulcerated surface were tubercle or smegma bacilli. After prolonged but unsuccessful treatment, the ulcer was removed by operation, and on examination of the tubercles, giant cells, caseation, and tubercle bacilli were demonstrated. Tubercular changes in the vulva have seldom been reported, and the author concludes that the cases of ulceration of the vulva with elephantiasis reported by Beit are due to tuberculosis. (From Dr. Haultain's periscope, Edinburgh Medical Journal, February, 1900.)

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GENERAL MEDICINE AND THERAPEUTICS.

ART. I.—SOME PECULIAR PHASES OF TYPHOID FEVER.

By E. G. JANEWAY, M.D., LL.D.,
New York; Dean, and Professor of Medicine, the University and Bellevue Hospital Medical College.

[The following is taken from Dr. Janeway's paper :]

I have met with three cases of tetany developed in the course of typhoid fever. One case occurred in a male patient seen at Bellevue Hospital, and the other in a lady seen in consultation with Drs. Dennis and Garmany. In this latter case the disease formed a distressing and embarrassing complication, for the rigidity involved not only the extremities, but also the jaws. The feeding, in consequence, became a matter of considerable difficulty. She recovered after a protracted sickness. The third case I saw in the spring of 1899 in consultation with Dr. Manges, of this city. This patient was very ill, and suffered with marked tympanites at the time of the development of this complication. He died as the result of perforation of the bowels, his condition at the time forbidding recourse to a laparotomy for the cure.

At times, probably owing to individual idiosyncrasies, the mental state is rapidly altered in typhoid fever, so that patients are supposed to suffer from mania or melancholia, or possibly from puerperal insanity. It has been my fortune to witness patients in the early state of typhoid fever where the question of the first-mentioned condition was entertained, instead of the disease which had initiated the phenomena through its influence upon the system. A careful study of the physical state of a patient on more than one occasion should prove to a careful observer such associations with perverted mentality as would prevent the diagnosis of insanity. Allied to this mental state is also the suicidal tendency which at times is developed in typhoid fever. Such complication may apparently come out of a clear sky, but it should be kept in mind as a possibility and guarded against if the least suspicion of its approach arises.

Herpes labialis is of such extreme infrequency in typhoid fever that its presence in a suspected case makes me carefully revise the diagnosis. On not a few occasions, when I have noted it in cases which I had been told were probably typhoid fever, has its presence seemed to make me give to the case a more than ordinarily rigid examination. This has resulted in usually discovering a hidden pneumonia, cerebro-spinal meningitis or malarial fever as cause instead of typhoid. Herpes is not impossible in typhoid, but improbable. For a considerable period I had seen a number of cases of typhoid without encountering a petechial eruption as a complication, and had felt inclined to say that it did not occur. Later I was obliged to admit its occasional occurrence in the late stages of the disease. Towards the end of typhoid fever hemorrhagic tendencies may develop and petechia occur. The strangest aspect I have seen produced is that which may develop under the coils of the cold water tubes, if such are too continuously applied to the abdomen in these cases. Wherever the coils have lain a thickly-set crop of petechia may be present with intervening sound skin, producing an appearance of circular rows of blood extravasation. I might add that when these hemorrhagic tendencies occur I have found the tartrate of iron and potash of service.

The onset of typhoid fever in women during the puerperal period has been in my experience a source of serious anxiety to the physician until the proper diagnosis was established. In one case more especially all the circumstances seemed to point toward septic rather than typhoid fever. A woman was delivered with instruments, by a demonstrator of anatomy, before a class of students in a college amphitheatre, and within thirty-six hours after confinement developed a fever. For some days the source of this fever was uncertain, though the complete absence of proof of inflammatory conditions in or about the uterus seemed to warrant the hope that the possibility of infection from the conditions named had made the physician unduly alarmed. The patient became early violently delirious, developed diarrhœa, and died of exhaustion. The autopsy showed death due to typhoid fever, and entire absence of inflammatory conditions about the uterus or adnexa. The consideration of this diagnostic problem has been forced upon me six times. In one other the fever developed on the day of confinement, which occurred in the Emergency Hospital of this city.

Another problem will at times occur owing to pain in the right iliac region. Pain and tenderness in this situation may be greater than usual, not alone at the outset of a typhoid fever, but also in the early period of a relapse. Thus, with fever may occur a possibility of mistake in diagnosis between typhoid fever and appendicitis. In fact, I have met with, or had knowledge of, seven cases in which either the appendix was removed or a laparotomy performed, and the appendix not removed because normal, or the operation proposed in typhoid fever at the early stage or in the commencement of a relapse. Moreover, I have been consulted in one case to decide whether there was typhoid fever or appendicitis in a young woman of sixteen because of chills, fever, and pain and tenderness on the lower right side of the abdomen, which was dependent upon a sapræmia due to a retained menstrual flow. Whilst early operation is desirable in appropriate cases of appendix inflammation, it is certainly a great error of judgment to remove the appendix in the early period of typhoid fever, because of the liability to diagnostic error, and of the haste necessary to operate in uncertain cases. The study of the history of the case, an examination of the number of leucocytes, a careful physical examination, with special attention to the size of the spleen and the presence or absence of roseola, will in most cases help in establishing a correct diagnosis. The absence of leucocytosis would favour the diagnosis of typhoid, whilst a decided leucocytosis would be against typhoid fever, as the condition or as the sole condition. Of course, I am aware that in rare instances the appendix may give rise to trouble in typhoid fever. The leucocyte count has helped me decidedly in two cases in this category, though in one I was unable to see the patient until the second day, but had required a count of the white cells while waiting. The twenty-four hours' delay was as helpful. There was no leucocytosis, and the pain and tenderness had disappeared from the right iliac fossa by the time of my visit. The patient went through a relapse of typhoid fever.

Two conclusions, moreover, have been forced upon me as the result of observing a large number of persons infected with fever in institutions. When the subjects are young, and but a meagre history has been kept, a simple observation of a considerable number may not enable the medical observer to decide positively whether he has to deal with typhus or typhoid fever, provided that from the knowledge that typhus fever exists in the vicinity he is aroused to suspect it. Again, when typhoid fever breaks out in an institution, particularly among young people, a considerable proportion of those attacked will not develop the complete disease. While perhaps the word "abort" may not be the most correct, it most fully expresses what I have observed in this regard at outbreaks in the Deaf and Dumb Asylum of this city, the Catholic Orphan Asylum, and in another institution. Of a large number becoming sick with much the same symptoms, in as considerable a number as one-half the fever would subside within three to ten days. The observation of this occurrence on several occasions has forced me to believe that we have a typhoid febricula, though we are only able to rightly recognise it when a number of others subject to identical conditions become ill in the same way, at the same time, but proceed to the full development of the malady.

This leads me to mention two conditions which are observed occasionally in the early period of typhoid fever. The first consists in an attack of stomach and bowel trouble with fever, or fever without these, which subsides in one to two or three days. This leads the physician to suppose that the case was one merely of some intestinal intoxication, grippe, malaria, &c. But after a short period of time the patient passes into a regular typhoid fever. The observation of cases of this nature each year has led me to feel assured that, directly or indirectly, the typhoid organism has been responsible for such occurrence. So also, again, at times it will be found that without antipyretics there is a drop of temperature towards the close of the first week or in the early part of the second week, lasting for a considerable part of a day. My first attention was drawn to this at a time when relapsing fever prevailed in New York City, and I had hoped that a patient who seemed to have typhoid might instead have, owing to this, relapsing fever, but the rise in temperature was present the next day, and the case continued as well-defined typhoid, terminating fatally by intestinal hemorrhage at the close of the second week. Rarely since then have I met this same peculiarity. Observations of this nature demonstrate the need of continual care where any suspicion exists of the development of typhoid fever.—*Medical News*, *December* 9, 1899.

2.—PROGNOSIS AND TREATMENT OF TYPHOID FEVER IN THE YOUNG.

By A. JACOBI, M.D., LL.D., Clinical Professor,
Columbia University, New York.

[From Dr. Jacobi's paper :]

The character and the mortality of typhoid fever are apt to vary according to seasons and epidemics. Baginsky places the mortality at 9 per cent., Montmoullin at 8.8, Steffen at 6.7, Henoch at 7.5, Wollberg at 4.7. In hospitals it is liable to be greater than in general practice for the reason that as a rule bad cases only are sent to public institutions. Still, in the Children's Hospital of Philadelphia, there were 137 cases, three of whom died (2.66 per cent.); in the Boston City Hospital, the mortality in 284 children, under 15 years, was 6 per cent., while amongst 3,396 adults it was 13.5 per cent.; and Holt collects 2,623 children with a mortality of 5.4 per cent. On the other hand, of Schavoir's (*New York Medical Record*, 1895) 192 patients (mostly in private practice), under 15 years, 2 died = 1 per cent.

Nurslings and the very young, also those approaching adolescence, are more endangered than those in the intermediate years, according to Roca (*Ann. de Policlin de Bordeaux*, 1897), and Roemheld (*Jahrb. f. Kinderh*, Vol. 48). High continuous temperatures are not always fatal, though they be complicated with a frequent pulse, nor are petechiæ absolutely ominous. A moderately slow pulse, and the occurrence of marked remissions are favourable, particularly when the fever is not terminated within three weeks. This continuation beyond the usual time is quite common in the very young, and when the case is apparently mild. A speedy recovery may be expected when the spleen gets smaller about the sixteenth or seventeenth day; if it remains large, the case will go on. Complications of any kind, pneumonia, meningitis, previous heart diseases, with feeble peripheral circulation (cold feet), laryngeal œdema, hepatic or splenic abscesses add to the danger; that with malaria is not very dangerous provided it be recognised at an early time. Some of these complications are frequently called sequelæ; but as they share in the microbic etiology of the disease, they should be considered here. To this class belong erysipelas (mostly facial), otitis media, hæmatomata, which are sometimes very large and destructive to the implicated or superjacent cutis, arthritis, furunculosis, abscesses of all kinds, and occasionally an anæmic dropsy, not attended with an affection of the kidney, the occurrence of which was noted by Griesinger nearly half a century ago.

Relapses are by no means rare, either after complete apyrexia, or with a moderate amount of remission about the end of the third week, or without any or much change in temperature. They come after apparently mild, or after severe cases, without or with errors in hygiene or diet; when there was apyrexia, they were mostly of a shorter duration than when the fever remain continuous, or exhibited a slight remission only.

Treatment.—The food should be liquid. My invariable rule is, with adults also, to insist upon that demand until apyrexia has lasted ten days. The patient should be encouraged to drink water frequently; the admixture of from eight to twelve drops of dilute hydrochloric acid to a tumbler full of water, or sweetened water, is a pleasant and disinfectant drink. Of albuminoids, peptones, and "peptonoids," and of beef-juice, only a certain quantity is digested or absorbed; the good that is to come from them is not from swallowing, but from digesting. The lips and tongue should be kept clean. Older children will wash and gargle. When the tongue is red and dry, and fissured, one or two daily applications may be made with a clean camel-hair brush, of a one or two per cent. solution of nitrate of silver. The nose should be kept clean, washed out with normal salt solution in urgent cases. To guard against hypostasis of the lungs and the cord, the posture in bed should be changed from time to time. A purgative dose of calomel in the very beginning will act beneficially; not so after the second half of the first week when diarrhœa and hemorrhages may be caused by it. Constipation requires warm water enemata daily; diarrhœa, frequent irrigations with water from 95 to 100 deg. F. When the discharges are offensive, thymol, or permanganate of potassium may be added in a proportion of 1 : 3,000—4,000. Internally, bismuth, sulpho-carbolate of zinc, salol, naphthalin are indicated. Bronchial catarrh demands no special treatment in most cases; if the secretion is viscid, and dyspnœa present from that cause, camphor is serviceable. Collapse requires strong stimulants, by mouth and subcutaneously; diluted alcohol, camphor in sweet almond oil 1 : 4, and the salicylate or benzoate of sodium and caffein, soluble in two parts of water, answer best for that purpose. Insomnia, great excitement, and consecutive psychoses may require chloral hydrate. When the heart is feeble, croton chloral should be selected instead. When these symptoms are accompanied with heat of the head, cold applications to the head, ice water, ice bags are soothing. The head should, under such circumstances, be kept as high as comfort permits. Sopor or coma should be treated with cold affusions, while the body is submerged in water of 90 or 95 degrees.

[Under the heading of antipyretic treatment, which the author generally approves of, he thus proceeds :]

The number of antifebrile medicaments has grown immeasurably; the cautious practitioner will do well, however, not to embark in the dark sea of unknown territories, guided by nothing but the flashlight advertisements of the drug manufacturer. Some of the new remedies are actual dangers. Acetanilid is a poison like all anilins; it changes hæmatin into methæmoglobin, and thus causes the cyanosis that is so frequently noticed. Antipyrin is perhaps the safest; sodium salicylate annoys the stomach and the kidneys, which are very liable to suffer from the typhoid toxin alone. Quinine acts well during intermissions and remissions, not however when high temperatures are continuous. The cardiac stimulants—digitalis, strophanthus, spartein, camphor, alcohol—which improve the general and cutaneous circulation, and thereby the radiation of heat from the skin, are mighty weapons in the hands of the intelligent medical adviser, who moreover need not limit himself to the few remedies I mentioned. All of these remedies, however, do not exhaust our resources; indeed they are only of minor importance. Without knowing all of it the old poet exclaimed "*hudor ariston*, the water is the best. Cold water and warm water are our most reliable and at the same time safest antipyretics.

Any dangers attending cold bathing are not encountered in warm bathing. This is not the place to prove for the thousandth time that a bath of 95 deg. or 90 deg. F. when of sufficient, even when of short duration, will reduce a temperature of 104 deg. or 106 deg. It is simply a fact. Such a bath may easily be given every three or five hours; even apparently mild cases should have two or three daily, from the beginning to the end of the illness. They reduce the temperature, the accompanying frictions stimulate the cutaneous and general circulation, the general condition is improved, the so-called typhoid state relieved, and relapses become less frequent. Warm bathing should be *the* principal treatment of all typhoid fevers, not to the exclusion, however, of occasional medication calculated to have similar effects. The combination of frequent and protracted bathing with proper medication will always remain appropriate, though our resources should, as we expect, be increased by serotherapy. The searching for it, and the frequent insufficiency of medication in skilful or unskilled hands, both by thoughtful or routine practitioners, have caused us too often to neglect our most active helps. Even where serotherapy has scored its most deserved laurels, for instance, in diphtheria, the almost boastful limitation to the use of antitoxin, to the exclusion of other internal and external treatment, is a mistake. What is to be treated is not the bacillus, but the organism invaded by the bacillus; and the clinician should know that bacteriology is an indispensable aid to clinical medicine, but not clinical medicine itself. Thus, when we shall find an antitoxin for the typhoid bacillus, we shall still require adjuvant treatment for the typhoid man, woman, and child.—*Pediatrics*, *December* 15, 1899.

3.—UPON MILK AND TYPHOID FEVER.

[The following is taken from an editorial in the *Montreal Medical Journal* anent an outbreak of typhoid fever in Montreal. It is included here because it deals with problems of universal interest.]

The important question that ought to be immediately answered is how we in Montreal, as indeed in other large cities throughout the Dominion, are to legislate in order to prevent such epidemics as typhoid through milk. Preventable they are, and prevented they must be. Up to the present time the city milk inspectors are powerless outside the city limits, or, in other words, while practically all the milk supply of the city is drawn from outside the city limits, the city authorities have no right to inspect outlying farms and to condemn unsanitary buildings, defective drainage, &c., or to order alterations in same. The question before us is by what means can the city gain control over those farms and over their milk supply? It would be possible to obtain the passage of a law at Quebec giving the city the necessary powers, but any such legislation on the part of the city might be opposed by country members, while again it has to be remembered that not a little of the Montreal milk supply comes from the neighbouring province, and it would certainly be out of the power of Montreal authorities to gain any control by this means over the Ontario farmers.

This method, therefore, is doomed to failure. On the other hand, we think it would be possible to obtain the passage of a city by-law to the effect that no dealer be granted a licence to distribute milk within the city limits unless he at the time of application for such licence and whenever called upon, produce a full list of the farms from which he receives his milk supply, together with written and signed forms of consent on the part of the farmers themselves affording that milk supply to permit the inspection of their farms by city officials and to carry out the directions of those officials with regard to alterations in unsanitary premises and the condemnation of diseased animals. And this by-law should include the further proviso that failure on the part of the farmer or dealer to carry out the provisions of the by-law *ipso facto* renders the licence null and void, and arrests the sale of milk within the city limits by the holder. The passage of such a by-law would necessitate the establishment of a small corps of duly qualified travelling inspectors on the part of the city, and to this extent would entail a certain amount of expense; to meet this expense the licence fees should be sufficiently large.

On the part of the householder there are very simple precautions which can be taken to prevent the danger from the use of possibly contaminated milk. Despite the abundant literature contained in our city papers during the past year, these precautions do not appear to be by any means generally recognised. We have received several enquiries from householders asking what they should do to protect themselves against possible infection. Without exception it has evidently been news to those householders that keeping the milk for a short time after receiving it at a heat above 150° F., but below boiling point, will effectually destroy any disease germs likely to be present. This ignorance on the part of the ordinary householder with regard to the keeping of milk in good condition, renders it clear that it is not to the householder but to the dealer that the authorities must look for the proper treatment of the commodity. And when we consider that not a little of our milk comes from places which are from 50 to 100 miles distant, and that consequently, instead of the morning milkings being delivered at the house in time for breakfast, inevitably half a day elapses between the milking and the delivery in by far the greater number of cases, then it is for the city and the dealers to recognise that the time has come so to treat the milk as to arrest in it the growth of micro-organisms, and this matter is so simple that there is no excuse for not carrying it out. There is one large firm of milk dealers in this city which at various points in the country round Montreal has receiving stations where the milk as it comes in is filtered, Pasteurised and then cooled. The objection to this process on the grounds that it alters the taste of the milk, is, it seems to us, effectually met by the fact that now for some long period this firm has, without saying anything, delivered this milk in the Pasteurised condition, and that instead of complaints coming in to the firm on account of poor taste, the large corporations employing the milk of the firm in question have complimented it upon the uniform and good keeping quality of such milk. That firm is rapidly extending its sale and is succeeding, as it is bound to succeed.

We sincerely trust that this object lesson which it affords will eventually force the other dealers in this city to recognise that milk for city purposes is a fluid that requires special and careful handling, and that the public demands in connection with the milk supply, as in connection with other departments of agriculture, that the teachings of modern science and the application of the same shall not be neglected, but shall be utilised both for the benefit of the public and of the individual. How many householders, we wonder, make any detailed enquiries as to the source of the milk supplied to their families, or have the faintest idea as to the sanitary state of the cattle from which it is derived, or know how it has been handled? But even with this indifference, the knowledge that there are dealers in the city supplying an absolutely wholesome article ought surely to tell in favour of employing those dealers. Above all, it is for us as medical men to instruct those depending upon our council with regard to the wisdom of employing pure milk.—*Montreal Medical Journal*, *January*, 1900.

4.—ON THE VALUE OF BLOOD EXAMINATIONS IN THE DIAGNOSIS OF CAMP FEVERS.

By J. J. Curry, M.D.,
Acting Assistant Surgeon, U.S.A.

If I can but impress forcibly and clearly on the minds of the medical profession at large the great and vital importance of careful and systematic blood examinations in the diagnosis of fevers, especially those occurring in military camps, I shall have accomplished something. Confining ourselves to the military side—that in which I have lived and worked for the past year—let us consider the large number of cases of typhoid fever occurring in the various camps, and the number of deaths resulting therefrom. Statistics show that casualties of the army in action are few as compared with the deaths and disabilities caused by camp fevers. When we stop to consider the great advance made in medical science during the past decade, and then look at our slight control over such widespread diseases as typhoid fever, we must be amazed. If the word "malaria" could have been eradicated from the vocabulary of the camp surgeon last summer, many lives would have been saved. It was due to the pernicious diagnosis of all fever cases as malaria, malaria, malaria, that typhoid fever became almost an epidemic in some of the camps. We know positively from our experience in the past year that typhoid fever may spread throughout a military camp without any contamination of the water supply. If two cases, or, indeed, if one case of typhoid fever occurs in a command, and is followed by another case, then is the time to act, to prevent an epidemic. The Sanitary Commission, appointed on the recommendation of the Surgeon-General of the Army, General Sternberg, will show in its report that if the first cases are recognised, typhoid fever readily succumbs to strict hygienic measures and *morale* of camp.

During the summer and fall of 1898 I was attached to the United States Army General Hospital at Fort Myer, Va. My duty was to investigate all cases received, and to establish, if possible, an accurate diagnosis in each and every case. In all something over 1,600 patients were treated at Fort Myer. Of these 1,600 cases, the great majority of all were fever cases; practically all doubtful cases and a good part of the entire number had careful blood examinations made upon them. Not only this, but I saw every case personally, diagnosed malaria and made careful blood examination not only for the plasmodium but for the "Widal." It was part of the routine work to take a specimen of fresh blood at the same time as specimen taken for Widal's test. This fresh-blood specimen was examined immediately for the malarial parasite and roughly whether there was any marked leucocytosis or not. These examinations were repeated often in negative cases. In all I made something over 1,000 Widal tests, and fully as many examinations of fresh blood for malaria and for leucocytosis.

I wish here to call attention to the great value of fresh-blood examination in addition to "Widal's test." I do not think text-books and hæmatologists as a rule lay sufficient stress on its value. In our work in the military hospitals it was part of the routine examination to take a drop of blood as one does for examination for the malarial parasite and examine it fresh in every case. From the fresh blood we can learn so much: (1) we can determine the presence of the malarial parasite; (2) whether or no there is any leucocytosis, at least whether there is any marked leucocytosis; (3) the general character of blood, that is, approximately by the colour of the red cells, any great diminution of hæmoglobin, any poikilocytosis, fibrin formation, &c. By the examination of the fresh blood, while except in malaria and luekæmia we cannot make an absolute diagnosis—it serves as a very valuable guide board directing our attention toward certain things. Thus, if we have leucocytosis and marked fibrin formation, it suggests the possibility of a pneumonia, and we naturally make a careful clinical examination. We might possibly have in a case where leucocytes are increased an otitis media, a cerebro-spinal meningitis, or some other disease which a careful systematic examination will reveal, but the great value of it is that it stimulates and directs us to look and keep looking for the trouble. If we have no leucocytosis, no malarial parasite, and a continued fever, we naturally have suggested a typhoid, so, in brief, it is an exceedingly good guide board, directing our energies to a correct diagnosis. The method used in performing "Widal's test" was chiefly that by dried blood. The technique was the same as that used in the Army Medical Museum by Major-Surgeon Walter Reed, United States Army.

Glass slides were used for collecting the blood instead of filter paper. These slides were labelled with patient's name, ward, date, &c. The ear was pricked by a surgical needle and three or four drops of blood placed on the slide a distance apart. These drops were allowed to dry a few hours to a day before being examined, as a rule. When dried, the edge of the drop was covered with distilled water by means of a platinum loop, and a watery extract of blood made on the slide by stirring with platinum needle, as one would mix a colour on a painter's palette. The drop of water should be tinged a faint yellow; a drop of twenty-four-hour bouillon culture of bacillus typhosis is placed on a cover-glass and then a drop of the same size of this faintly yellow-tinged watery blood extract mixed with it (of course the platinum needle is sterilised in the flame at every step). This cover-slip is then inverted over a hollow slide, which has had the edges of the ring surrounded by a thin layer of vaseline. The hollow slide is numbered with a number corresponding with the one on the original slide containing the blood specimen, and the time of mounting noted also on the slide with a glass-marking pencil. The time limit is one hour, though the reaction, if it occurs, does so almost invariably in less than half-an-hour. This method has the advantage of being rapid and also a severe test. After a year's work and over 1,500 Widal tests by myself, I have never once obtained a reaction by this method that did not also give it with a dilution of at least 1-30 by the fluid serum method.

If the slide is placed over a white surface while mixing the blood, one can readily detect the faint yellow tinge. It takes some little practice, but one soon learns to judge the right colour. I tried several ways of estimating the amount of blood in the drop, in order to get somewhere near exactness in dilution, but was unable to find any method by which a large number of cases could be examined satisfactorily. There was some objection to every one. I did try taking up the blood by a platinum loop from the drop of blood hanging on the ear and transferring it to the slide, and then mixing the blood with water, using the same sized loop and placing drops of water around the blood drop and then mixing. If we could always get the same sized drop of blood we could then get a fairly exact dilution, but it is an almost impossible thing to do. I believe the method described as Dr. Walter Reed's is the most practical and satisfactory.

I hope I have brought before you clearly the great value, and, in fact, the necessity of careful systematic examination of the blood in obscure fevers, by not only the Widal method, but also by that of the fresh blood. The greatest care is taken to furnish good operating sets and good operators to every camp, but when we compare the mortality from surgical cases and that from camp fevers (preventable fevers if early recognised), it must be admitted that even the surgical sets and the expert surgeons are not any more important to the army than the bacteriological set and the expert hæmatologist. — *Boston Medical and Surgical Journal, November* 23, 1899.

5.—A PLEA FOR THE MORE EXTENDED USE OF ANTITOXIN FOR IMMUNISING PURPOSES IN DIPHTHERIA.

By JOHN S. BILLINGS, JR., M.D.,
Assistant Director of the Bacteriological Laboratory,
Department of Health, New York City.

[The following is taken from Dr. Billings' important paper :]

Since the introduction of the antitoxin treatment of diphtheria in New York city in 1896 there has been a steady reduction in the number of cases of diphtheria occurring each year, and in the mortality from this disease, down to January 1, 1899. During 1899, however, there has been an increase in the number of cases of diphtheria and in the mortality. The moderate diminution in the number of cases of diphtheria which took place in 1897 became more marked in 1898, the reduction amounting to 33.3 per cent. Along with the reduction in number of the cases there was a steady diminution in the number of deaths, and a lowered mortality from the disease. But the records of this department show that during 1899 there were six hundred and forty-seven more cases of diphtheria and a hundred and sixty-four more deaths than in 1898. How is this increase to be accounted for, and how is it to be put a stop to? According to our present knowledge, it is improbable that diphtheria can ever be eradicated from such a large community as New York city : the best we can hope for is to reduce the number of cases to a minimum. Diphtheria is a very contagious disease, and can be contracted in a great many ways. The disease spreads from person to person through many channels, especially through childish habits, and those coming into contact with an individual suffering from diphtheria may become infected before the disease is recognised. Furthermore, the perfect isolation of children who have recovered from diphtheria, but in whose throat virulent diphtheria bacilli are still present, is impossible, especially among the poorer classes. The difficulty would be partially met by sending every case of diphtheria to a hospital for contagious diseases, and retaining it there until the diphtheria bacilli have disappeared from the throat and danger of infection is over. But this is still a question of the future.

Turning to the consideration of the measures taken to prevent the spread of the disease, we may divide them into curative treatment; isolation of the patient until all danger of infection is past; disinfection of premises, &c., where the disease has occurred, and, finally, immunisation with antitoxin of those individuals who have come into contact with the patient or have been exposed to infection. The antitoxin treatment of diphtheria, while a specific and effective remedy, and lessening the number of deaths from the disease, cannot alone bring about any marked reduction in the number of cases.

The records of this department show that antitoxin has been used in a greater number of cases in 1899 than in 1898, and with as good or better results. Furthermore, the methods of inspection, isolation, and disinfection in diphtheria, as practised by this department, have been carried out with the same care and thoroughness in 1899 as in 1898 and the preceding years; and no laxity on the part of the medical profession on the same score has been apparent. But when we take up the question of immunisation with antitoxin for 1899, we find that while there has been an increase in the total number of cases of diphtheria, and in the number of cases treated with antitoxin, there has been no corresponding increase in the number of individuals immunised against the disease; on the other hand, there has been an actual diminution.

It is not the purpose of this report to prove the efficacy of antitoxin as an immunising agent against diphtheria. For that purpose, reference is made to the report of Dr. H. M. Biggs on "The Serum Treatment and its Results," read before the New York Academy of Medicine in March, 1899, and published in the *Medical News*, July 22 and 29, 1899. But in passing, it is to be noted that out of 3,109 individuals immunised, only nine contracted the disease, and these in a mild form. A minimum dose of antitoxin was used in each of these nine cases (150 units), and it is highly probable that if a larger amount had been used (300 to 500 units) immunisation would have been perfect in every one of the 3,109 cases. The inspectors of this department, as the result of their experience, are now using 300 units or more as an immunising dose, and I am informed by the most experienced member of the staff that the rashes and other occasional sequelæ of antitoxin administration are less frequent with these larger doses. In the division of bacteriology of this department a record is kept of all cases of diphtheria: not only of those in which cultures were taken, but also of all the cases reported to the Bureau of Contagious Diseases. From this index the following table has been compiled, showing the number of cases of diphtheria contracted after twenty-four hours from an original case in the family:

Number of secondary cases of diphtheria	682
Number of families in which secondary cases occurred	522
Number of deaths of such secondary cases	61
Mortality	8.9 per cent.

These figures represent only the minimum number of secondary cases of diphtheria. As stated above, only those cases occurring at least twenty-four hours after the original case were taken into account. But in many cases the physician, either through carelessness or through faulty information on the part of the parents of the patients, has reported two or more cases as beginning on the same day. This occurred in 141 instances, which cases were not counted in. Further, only the number of individuals of the same family name was estimated, although in many instances several cases occurred in the same house, many of which were doubtless in the same family circle. A majority of the secondary cases occurred a week or more after the primary case. In many instances where the secondary case occurred some weeks after the primary case, it was noted that cultures from the primary case showed the presence of diphtheria bacilli at the time of inception of the secondary case.

Conclusions.—(1) The increased number of cases of diphtheria in New York city in 1899 is probably due, in part, to neglect of a most important prophylactic measure against the disease—*i.e.*, immunisation by antitoxin. (2) Immunisation furnishes one of the most potent means of preventing the spread of diphtheria and lessening the number of deaths from this disease. (3) It is probable that in some cases the immunising dose of antitoxin hitherto recommended (150 units) is insufficient, and that at least 300 units should be used in children and 500 in adults. Owing to improvements in the mode of preparation and the increased concentration of the antitoxic serums now in use no ill effects are to be apprehended.—*New York Medical Journal, February* 17, 1900.

6.—ON DIPHTHERIAL STOMATITIS.

By E. F. Trevelyan, M.D., M.R.C.P.,

Assistant Physician to the Leeds General Infirmary; Professor of Pathology, Yorkshire College (Vict. Univ.).

[The parts dealing with literature of the subject are omitted here.]

By diphtherial stomatitis is here understood a stomatitis produced by the diphtheria bacillus, associated or not with other microbes. The term does not include cases in which the membrane or exudation is present on the uvula and adjacent soft palate, for this localisation of the lesion is included under faucial diphtheria, and is not uncommon, although in such cases the tonsils are mostly also implicated. Diphtherial stomatitis is therefore restricted to cases in which the characteristic lesion is situated on the inner side of the lips or cheeks, the floor of the mouth, tongue, or hard palate. It may be either primary or secondary, according as the membrane or exudation appears first in these situations or follows upon a faucial diphtheria. The following are instances of primary diphtherial stomatitis :

Case 1.—A man, aged 35, had been ill for some five or six days with soreness of the mouth and gums, and fœtor of the breath, but there was no change from the normal in the temperature, pulse, or respiration. Two elongated patches of membranous exudation appeared on the under surface of the tongue parallel to the frænum. The tongue was not swollen. It was thought at first by Dr. Hawtin, who was in attendance. that the case might be one of mercurial stomatitis, but the patient had not taken any mercury, nor was there any evidence of syphilis. In addition to the appearances above named, there was also a patch of membrane on the inner side of the lower lip when I saw him a few days later. The patches were made up of a thick dirty-white looking membrane, and a bleeding surface was left when the membrane was stripped off. The glands under the jaws were slightly enlarged. The patient was treated with disinfectant mouth washes. A bacteriological examination was made of the membrane, and a short bacillus obtained from it having the morphological appearance of the short diphtheria bacillus. It stained unevenly, often presenting a lighter centre, with a constriction opposite this centre. It gave Neisser's reaction. The individual bacilli were often arranged in parallel fashion. As very little change was noticed in the mouth during the next few days, 2,000 units of anti-diphtherial serum were injected. In a day or so the patches of membrane gradually became less and eventually disappeared, so that the patient was well in a week.

There were one or two difficulties in this case. As regards the bacteriological examination, it might be urged that the bacillus found was the so-called pseudo-bacillus. The short diphtheria bacillus is admittedly much more apt to give rise to doubt as regards its identity than the long segmented form. To those who recognise the pseudo-bacillus as such, the distinctions between it and the short diphtheria bacillus are based on several features, but more particularly on its non-pathogenic properties. Unfortunately, no experiments were made upon this point in my case. As mentioned above, the micro-organism gave Neisser's reaction, but all are not by any means prepared to look upon this reaction as distinctive of the diphtheria bacillus. To sum up, in the above-named case a bacillus was found morphologically indistinguishable from the short diphtheria bacillus, and this microbe was obtained from a lesion bearing all the appearance of diphtherial membrane. Under these circumstances, I think it right to conclude that the microorganism was the bacillus of diphtheria.

The clinical difficulty consisted in the absence of general symptoms. Nevertheless, cases of unquestionable diphtheria are occasionally seen where there is a more or less complete absence of general symptoms. There are also well-authenticated cases of membranous rhinitis due to the diphtheria bacillus where there have been absolutely no other symptoms than the slight local ones. From some such cases true faucial diphtheria has been known to arise in other members of the household. This absence of symptoms has been mentioned by some writers on diphtherial stomatitis (Forchheimer, Goodall, and others). The first-named observer says that diphtheria of the mouth, when primary, may run its course insidiously, and is overlooked, or is not recognised, until further complications develop. The absence of general symptoms cannot, therefore, be looked upon as excluding diphtheria.

Case 2.—A girl, aged 15, was suffering from what Dr. Shaw, her medical attendant, thought was an ulcerative stomatitis. A swab was forwarded to the laboratory of the Leeds Medical School. The diphtheria bacillus was obtained from it by cultivation. The case was removed to the Fever Hospital, and by the kind permission of Mr. A. E. Pearson, the medical superintendent, I saw the child there on January 28. There were at this time five patches, three on the upper and two on the lower lip on the inner side. The longest patch was oval, about ¼ in. in diameter, of a whitish blue colour, and intimately adherent to the mucous membrane. A swab was taken from one of the patches. The child was observed to be constantly wiping the patches with her handkerchief. Mr. Hardwicke, the assistant medical officer, kindly forwarded me this handkerchief for examination. Tubes containing coagulated hydrocele fluid, sheep's serum, and agar respectively were inoculated from the swab. An abundant growth of the diphtheria bacilli was present in the serum tube in about seventeen hours, and a sparse growth in the hydrocele tube. A typical Neisser's reaction was obtained. The growth on the agar tube consisted almost exclusively of the staphylococcus pyogenes aureus. After several attempts the diphtheria bacillus was separated out and obtained in pure culture; the difficulty consisted in the agar plates being constantly overgrown with the staphylococcus. This was no doubt due to the fact that what appeared to be a single colony of the diphtheria bacillus really contained some staphylococci, as was proved on more than one occasion by microscopical examination. The bacillus was eventually grown on the various media, and all the varieties (long, short, medium-sized, as well as the long and short clubbed forms) were obtained. Six small pieces were cut out of the handkerchief mentioned above, and hydrocele tubes were inoculated from them. In each case a short diphtheria bacillus was obtained. The other microbes present were the staphylococcus aureus and the sarcina lutea. In three weeks' time six more tubes were inoculated as before, and the short bacillus again developed in all the tubes. The staphylococcus now hardly grew at all, but the sarcina abundantly. It was thus quite easy to plate out the diphtheria bacillus, and to obtain it in pure culture. Various media were inoculated, and the different morphological forms were obtained. Thus inoculation was successively made upon hydrocele fluid, agar, glycerine agar, and glucose agar. Specimens prepared from the last-named medium showed diphtheria bacilli of all lengths, including some enormous clubbed forms, as well as short clubs. Taking into account the morphological appearances and the staining reactions, as well as the characters of the colonies on the various media, I do not think that the micro-organism which was obtained both from the swab and also from the handkerchief could be any other than the true diphtheria bacillus. [A similar examination of the handkerchief was made at the end of a further two and four weeks respectively, with similar positive results.] The subsequent history of the case, kindly furnished to me by Mr. Hardwicke, was as follows : The patches remained in the same state for about a week ; they were then frequently painted with carbolic acid in glycerine (1 in 10). They rapidly diminished in size, and the patient left the hospital quite well on the thirty-sixth day of the disease. There were never any general symptoms, nor was there any albumen in the urine.

Case 2 was undoubtedly one of genuine diphtherial stomatitis. So far as was known, the child had not been exposed to the diphtherial infection. The ease with which the diphtheria bacillus could be obtained from the handkerchief afforded a striking illustration of one possible method of spread of the disease. The handkerchief, kept in a sterilised bottle, contained living diphtheria bacilli seven weeks after the child had last used it. I intend to further examine it from time to time until I obtain negative results. It was also interesting to note that the staphylococcus aureus perished before the diphtheria bacillus.

A primary genuine diphtherial stomatitis is undoubtedly very rare. Many text-books hardly mention it. Secondary diphtherial stomatitis is also rare, but is commoner than the primary form. The membrane may be found on the inner side of the cheek, tongue, lips, and has sometimes been known to extend beyond the mucous membrane of the lip on to the skin (Osler). The presence of the diphtheria lesion in the mouth as well as on the fauces is usually taken as indicating a severe attack of the disease. Quite recently I saw a case of this kind with Dr. Umanski (Leeds) in a child, aged 4. The whole of the uvula and soft palate were covered with membrane. There was a patch of membrane on the inner surface of the lower lip about the size of a threepenny-piece. The child died about the fifth day of the disease. It was injected with anti-diphtherial serum (4,000 units), but this treatment was only begun late in the disease, within the last twenty-four hours of life.—*British Medical Journal*, *April* 14, 1900.

7.—CONTINUED FEVER IN SOUTH AFRICA.

By H. H. TOOTH, M.D.

[The following is taken from Dr. Tooth's paper on his experiences :]

When large bodies of men are encamped in hot countries there will be a number of cases of continued fever of which the cause is obscure ; these generally receive the provisional name of simple continued fever. Undoubtedly a large proportion of these are mild cases of enteric fever—how large it is at present almost impossible to say. The diagnosis, obscure at the front, becomes more certain, under careful observation at the base. Some of these cases at the beginning are apparently sun cases ; but, instead of resolving in about a week, the temperature remains up for several weeks, with also a constantly furred tongue, general wasting, and great debility. At the base they improve, but they tend to relapse. I saw one of the Guards' officers who was a case of this description. Surgeon-major Sheldrake had seen him at Gibraltar with a slight attack of a similar description, which was then thought to be Malta fever. He suggested that this was a lighting up of the same disease, which I think very probable. I may say, however, that since writing this I have seen the same patient at Wynberg, where the opinion is that he is a case of enteric fever. It would appear probable that some of the sun cases may not resolve, but take on a chronic course.

I cannot close this letter without some reference to the gastro-enteric troubles to which the men are liable in this campaign. Simple diarrhœa is, of course, very common, and as a rule, if taken in time, as amenable to treatment as it is in England. Castor oil and opium and some chalk mixture, with a milk diet for a day or two, is all that is necessary. But there are numbers of much more severe cases which merit the name dysentery, in which there is great pain, tenderness, and bloody stools. These must be due to a fairly severe colitis, but it is doubtful whether true ulceration ever occurs. As a rule the cases are fairly easily treated, and when one comes across a very obstinate case, it is generally in a man who has served in India, and has probably had dysentery there. I have not come across a case of secondary abscess of the liver in the African disease, but there has been hepatic tenderness and probable perihepatitis in several of my cases of men who have been in India. In the treatment of these cases rest in bed is, of course, essential. The ipecacuanha treatment is used by some, but it is rather a severe treatment, and seems to be rarely necessary. We have found a very satisfactory method in the use of repeated doses of magnesium sulphate. This is given in drachm doses every hour for about twenty-four hours. The effect seems to be of the nature of an internal lavage. The diarrhœa is rather increased at first, the motions larger and more watery, but the pain and tenderness are rapidly relieved and the blood rapidly disappears. This is followed by bismuth carbonate and chlorodyne, or a simple opium draught every three hours, with the best results. When these means fail, and that is generally in the Indian cases, I have found great relief from large enemata of boracic lotion of about 10 per cent. The nitrate of silver injections are only suitable for the very chronic cases, of which we have not yet had any.

Looking through the admission and discharge book of the Guards' Field Hospital, I was struck by the fact that up to about December 23 dysentery figured very largely in the admissions, but at about that date four cases of enteric fever were admitted—men of the same company who had been very much together, and who had presumably been infected at the same source. From that time the admissions of dysentery diminished almost to the vanishing point, and enteric cases came thick and fast. At the close of the war many interesting points in connection with the spread of enteric fever will probably be discussed: not the least interesting will be the question of the mortality among inoculated patients. As far as we have seen at present inoculation does not confer immunity; but at Modder River, at any rate, the mortality was strikingly low as compared with the non-inoculated.—*St. Bartholomew's Hospital Journal*, *April*, 1900.

8.—SANITATION v. TUBERCULOSIS.

By ARTHUR RANSOME, M.D., F.R.S.

[The following is taken from Dr. Ransome's paper:]

When we review the forces which have been in the past, and can be in the future, opposed to tubercular disease, we are bound to place in the front rank general sanitary reform. Within the last few years other methods of meeting tubercular diseases have come to the front; and, on the Continent especially, men have come to trust more to disinfection of sputum, and to isolation of the consumptive, than to the amendment of the conditions under which alone infection is possible. Yet tuberculosis is truly a filth disease; it is very rarely, if at all, directly infectious, from person to person; and, apparently, it can only live, and retain its virulence, in the presence of organic impurity derived chiefly from emanations from animal bodies, or from a damp subsoil. It scarcely ever spreads where the subsoil drainage is efficient, where the "air sewage" is regularly removed by ventilation, and where there is sufficient sunlight to impair the virulence of the bacillus. This is the teaching of the years before disinfection of sputum was thought of; and hence, though this excellent preventive measure must not be neglected, we ought not to abandon, or relegate to the second place, those sanitary measures which have already proved so efficient. As in the past, so in the future, we shall have to rely mainly upon the public health service for thoroughgoing measures against tuberculosis.

The various local sanitary authorities can do good service against tuberculosis in many ways:—(1) By constituting an intelligence department; to ascertain the number of cases of the disease, and the places in which they live, and even sometimes the places in which the disease originated. This they can do by utilising the registers of death; and in some places, notably in Manchester, the deaths can be located not merely in districts, but in individual houses. To discover living cases they can obtain information from parish medical officers and from the medical officers of charitable and other public medical institutions. Although the time has not yet arrived for a compulsory notification of all cases of tubercular disease, it has been shown to be possible by several medical officers of health—Drs. Niven, Newsholme, and others—to obtain a voluntary notification, which would include most of the more important forms of the disease. (2) In the next place local authorities can make sure that they have to deal with cases of genuine tuberculosis by providing for a bacteriological examination of supposed tubercular material, such examinations being made at the public expense. (3) When satisfied as to the existence of danger of infection, local authorities can disinfect unhealthy tenements and clothing, and can provide hospital wards for the reception of patients who are without proper lodging and accommodation, or who are unable or unwilling to take the steps necessary for the destruction and disinfection of their discharges. (4) By following the example of Manchester, Leeds, and Glasgow, sanitary authorities can protect the public to a great extent against the danger of infection through food, such as meat and milk. Probably no means will be entirely efficacious in this regard until the herds of cattle from which the supplies are derived are rendered tubercle-free; but in the meantime much may be effected by thorough inspection of slaughterhouses, meat markets, cowsheds, dairies, and milk-shops. (5) Most important of all, local authorities can put in force the powers they now possess, and can obtain others, to provide against over-crowding, to secure good ventilation, access of light, and freedom from damp in all dwellings, workshops, or places of public assembly. They can clear out crowded sites, remove obstructions to the free passage of air, and by the modification or reconstruction of insanitary house property they can do away with the slums and phthisis-nests which now abound in most of our large towns.

Under the head of Sanitation we cannot omit improvements in the condition of our working population—that is, in their feeding and clothing, and especially in their housing, in their hours of labour, and protection from noxious atmospheres. But most of these circumstances are outside the sphere of influence of local sanitary authorities. They need the intervention of other bodies, and most of them need the cultivation of a strong and wholesome public opinion before much good can be effected.—*Tuberculosis*, *April*, 1900.

9.—THE TREATMENT OF RHEUMATISM.

By Sir Richard Douglas Powell, Bart., M.D., F.R.C.P.,

Physician in Ordinary to the Queen, Physician to the Middlesex Hospital.

[The following is taken from the author's paper, which embodies his reply in a debate before the Chelsea Clinical Society :]

With regard to salicylates, if they do not all that which was originally claimed for them, their usefulness cannot be gainsaid. It is the universal experience that salicylates do not affect the duration of the rheumatic illness, but they do reduce the temperature and relieve the joint affections. It is said that statistics prove that cardiac complications are more frequent in those who are taking salicylate and that relapses are more to be feared than under the alkaline treatment. I think that Dr. Ewart hit on the fallacy of the inference from these statistics when he remarks upon "the indirect risk that arises that we may be misled into over-estimating its anti-rheumatic powers and relax too early both treatment and diet." It is said, again, that salicylates have no influence upon hyperpyrexia in rheumatism. I do not know that any drug has an influence on hyperpyrexia when it is established, but in my experience hyperpyrexia has enormously diminished as a complication of rheumatism since the introduction of the salicylate treatment. Dr. W. E. Wynter has been kind enough to look through the records of the Middlesex Hospital for the last 30 years. In the years from 1870 to 1876—that is, before the period of the salicylate treatment—there were 952 cases of rheumatic fever, with 30 deaths, that is to say, there was an average of 136 cases of rheumatic fever every year with an average death-rate of four and a quarter. In this period there were 11 cases of hyperpyrexia of which one case recovered. In the remaining 21 years, from 1877 to 1897, all within the period of treatment by salicylate, there were 2,552 cases of rheumatic fever admitted into the hospital, with 27 deaths, or an average of 121 cases, instead of 136 cases per year, and with a death-rate of one and a half in 121 as against four and a half in 136. In that period there were only six cases of hyperpyrexia, all of which occurred in the first two years and four of which recovered. There has been no death from hyperpyrexia in the hospital since 1889. My impressions have been thus borne out by the hospital records. Then, again, in the treatment of hyperpyrexia I have made it a rule after reducing the temperature by cold to adhere to the salicylate treatment. I think it will be found that where hyperpyrexia occurs in a considerable proportion of the cases the salicylate treatment has not been pushed very vigorously.

There have been various statements as to the unfavourable effects of the drug, some maintaining that these effects are rather imaginative. I must confess that I do not agree with this opinion. I have observed a distinct case of renal hemorrhage associated with salicylate treatment, and I think Dr. Pye-Smith mentioned some cases also. Then, again, the occurrence of great slowness and great feebleness of the pulse is sometimes met with in people taking salicylates, so notably met with as practically to interrupt the treatment by salicylate. Now and again one meets with delirium with a falling temperature coming on in the course of rheumatic fever; that is in my experience always an untoward consequence of salicylate treatment, and requires the treatment to be interrupted. With regard to the dosage various opinions have been expressed. I for my part should say that a 15-grain dose is better than a larger dose, but it should be repeated at sufficiently short intervals to get the patient under the influence of the drug. When too large doses are given at first the drug is apt to cause vomiting or other disagreeable symptoms. I fully agree with Dr. C. C. Gibbes that the influence of the drug should be maintained.

The alkaline treatment was tried in its thoroughness many years ago and was found wanting, and although it still lingers as a tradition in some London hospitals, yet it has come to be softened down and to be mingled with the more efficacious salicyl treatment. Alkalies seemed to be called for by the symptoms of rheumatic fever, but I should very much question whether they can have much influence upon that acidity which is said to be so potent in producing paralytic cardiac dilatation.

For we must remember, at least I think I am right in saying, that the blood is never acid even in acute rheumatism; it may be less alkaline than is normal. As regards the sweat, I have never observed the sweat of a patient to be rendered alkaline by the alkaline treatment even in cases where the urine is strongly alkaline. The urine is readily rendered alkaline, but I doubt whether it is of any advantage to make the urine, which is normally acid, alkaline in the course of the treatment of rheumatic fever. I should regard the usefulness of alkalies rather as increasing the oxidation of the tissues and promoting the elimination of morbid materials, whatever they may be, from the blood, and should be inclined to give them in moderate doses.

With two exceptions, Dr. Donald Hood and Dr. Burney Yeo, opium has not been touched upon. It was at one time an important remedy in acute rheumatism. We do not now require to give opium to any great extent—it is useful for the first 24 hours for the relief of pain—but in myocarditis, in grave forms of endocarditis, and especially in pericarditis, the opium treatment is of immense value, its object being to cause organic rest, so far as organic rest can be given to an automatically moving organ, by diminishing the rapidity of the pulse and quieting the restlessness and agitation of the patient.

With regard to blisters very much has been said, and I should attach much importance to Dr. Caton's views after 19 consecutive years' observation. The idea of treating the surface nerves, which have reference to the inner organs, the area of distribution of which has been so ably pointed out by Dr. H. Head, is an attractive one. The possibility of producing a reflex vaso-motory control of the affected valves is a very attractive hypothesis, but I still think it is rather straining physiological therapeutics to the extreme point. An ounce of fact, however, is worth a pound of theory, and Dr. Caton has found the application of small blisters useful in acute rheumatism, and one can only suggest its further trial. We all agree on the little value of digitalis in the acute cardiac affections of rheumatism.—*The Lancet*, *March* 31, 1900.

10.—MUSCULAR RHEUMATISM.

By I. Adler, M.D.,

Professor of Clinical Pathology, New York Polyclinic, &c.

[From Dr. Adler's paper:]

The clinical picture presented by muscular rheumatism varies according to the intensity and extent of the process, and according as it assumes an acute or chronic character. There are cases which convey altogether the impression of acute infectious disease and are accompanied by fever, seldom, it is true, above about 102 deg. F., but in exceptional cases rising to 104 deg. F. and over. The muscular swelling extends in these cases over a considerable area, the cutis is tense and shining, and the slightest motion or touch causes almost intolerable agony. Even when the diseased parts are entirely immobilised and protected from all harmful influence, very severe spontaneous pain is as a rule present. In these cases the disease usually affects a number of muscles lying in more or less close vicinity, but is, as a rule, confined to one region alone. We rarely see this acute and intense affection appearing simultaneously in different regions of the body. Very often, too, the joint nearest to or surrounded by the diseased muscle is also somewhat, though possibly but very slightly, involved in the inflammatory process. This corresponds to the generally recognised fact that in acute articular rheumatism the muscles adjoining the diseased articulation are also more or less inflamed. This form of muscular inflammation which appears in the train of acute or chronic articular rheumatism is considered by some authors as the true and only myositis rheumatica. This view is entirely unfounded, inasmuch as these forms of muscular inflammation differ in no essential respect from the form of interstitial myositis as typical for the ordinary muscular rheumatism. Another feature in these acute cases of muscular rheumatism which suggests very vividly infectious disease is the not infrequent occurrence of endocarditis and of cutaneous lesions, petechia, erythemata, and urticaria, the so-called peliosis rheumatica.

Another group of cases presents an entirely different type. I include under this heading those forms of muscular rheumatism which are usually of short duration, more transitory in character, extending over a very limited area of tissue, and which, while at times appearing in various and widely distant regions of the body simultaneously, may, on the other hand, cling obstinately to one spot and occur again and again always in the same place. Such affections are the common lumbago, the rheumatic caput obstipum (*vulgo* stiff neck), certain forms of intercostal pains, usually designated as intercostal neuralgia, but in fact nothing else than rheumatic myositis of the intercostal muscles, and similar affections in the various muscular groups all over the body. The general conviction is that these mild and strictly localised cases of muscular rheumatism are not associated with rise of temperature, and it is undoubtedly true that in many cases there is no fever. Nevertheless Leube's statement that in very numerous instances, even in these mildest cases, there is a slight rise of temperature is entirely borne out by closer investigation. Systematic thermometric measurements have shown that even in mild cases, in common lumbago or stiff neck, slight elevations of temperature, 100 deg., 100.5 deg., 101 deg. F., are much more frequent than is commonly supposed. A further point that deserves mention is the question of endocarditis in muscular rheumatism. It is beyond doubt that endocarditis, while of frequent and almost regular occurrence in acute articular rheumatism, is but rarely observed in muscular rheumatism. But it certainly does occur. In this respect, too, the facts bear out entirely Leube's statement. Endocarditis is met with not only in these severe cases associated with considerable elevation of temperature as mentioned above, but also now and then in quite mild cases of lumbago, stiff neck, &c.

One other point deserves mention : It is customary to look upon lumbago, stiff neck, and other similar very sudden myalgias as caused by traumatism, as due to muscular strain or distortion. It is indeed certain that in very many of these cases, though by no means in all, the acute attack of pain appears to be brought about by some sudden and abrupt motion (stooping, lifting, rapid turning of the head, &c.). Leube, who is of the opinion, as I am, that even these cases of so-called myalgia must be considered as genuine rheumatic infections, admits that this apparent connection of traumatic injury with the outbreak of an acute attack of rheumatic affection is at present entirely unexplained. From the point of view advocated in this paper the symptom is, however, not difficult of solution. In all of these cases interstitial myositis with more or less infiltration, which, as has been shown above, may lie dormant without objective symptoms for an indefinite time, is present and may have existed for a long time. The myositis is in every case the primary affection. Under these conditions a sudden violent and abrupt motion simply lights up a renewed and acute attack of inflammation and pain, possibly by causing a slight intramuscular hemorrhage, or by rupture of bundles of already well-degenerated muscle fibres or of infiltrated and degenerate nerve branches, &c. All this is not mere speculation, but can easily be proven. There are numerous persons who suffer, sometimes for many years, from recurrent attacks of this form of rheumatism, for instance, from lumbago. In every one of these cases it is possible in the interval between the attacks, and at times when there are absolutely no subjective symptoms, to demonstrate muscular infiltration in the quadratus, longissimus dorsi, or other muscles of the trunk, and it can be shown that in every attack the pain unfailingly takes it origin from those spots which have been recognised as the seat of the infiltration. Let it be stated plainly once more, however, that numerous instances are observed in which the attack comes about without any traumatic influence whatsoever. Rheumatic myositis can occur practically in almost every part of the body where there are striated muscles.

In conclusion, some few words must be said about treatment. The acute cases with fever and severe pain are treated as any ordinary case of articular rheumatism. The patients are kept in bed and salicylates are administered. In a general way I am under the impression that salol and its compounds act more satisfactorily in muscular rheumatism than salicylate of sodium. In most cases, too, I see better results from the local application of cold (ice-bag) than from the hot fomentations and hot-water bags which are so generally favoured. The old notion, still widely accepted, that acute rheumatism, whether muscular or articular, must be treated by hot applications, and that all cold must be carefully avoided, should at last be given up. The rheumatic infiltrations and indurations can be best dealt with by proper massage. Not every so-called masseur understands this, and I am far from indorsing the loose and unscientific handling that has of late years become rather too general under the collective name of massage. For our purpose the masseur must be possessed of a specially trained tactile sense in order to find even the slightest infiltrations, and a special technique is required in their treatment. Quite soft and recent infiltrations are handled differently from old and hard fibrous indurations. In the latter the object of the massage is the forcible breaking up of the fibrous masses and the production of reactive hyperæmia and inflammation which will gradually under persistent and judicious treatment end in absorption of the fibrous induration and in new formation of muscular tissue. In the former the procedure is simpler and easier, though the principle is the same. It is astonishing to see indurations almost cartilaginous in their hardness still yield to persistent and properly applied massage. It is evident, however, that recent still well vascularised and cellular infiltrations will be absorbed much more quickly and easily than old, hard, and dense indurations. For this reason it is well to commence the mechanical treatment as soon as the acute stage of fever and intense spontaneous pain has passed. We will then be able very often to obtain complete absorption and restitution in a very short time. In every case the treatment requires some pluck and energy as well as persistence on the part of the patient, for it is obvious that this kind of massage is necessarily quite painful, especially at the beginning of the treatment. As the infiltrations are reduced the painfulness of the massage rapidly diminishes. The rare cases of genuine muscular cicatrisation (*Muskelschwiele*) can, it is obvious, derive no benefit from massage. In these cases the fibrous cicatricial tissue must be exercised. This has repeatedly been done with excellent result. Recently such cases have been again reported by Strauss.—*Medical Record*, *March* 31, 1900.

11.—THE DIFFERENTIAL DIAGNOSIS OF GOUT, RHEUMATISM, AND RHEUMATOID ARTHRITIS.

By ARTHUR P. LUFF, M.D., B.Sc., F.R.C.P.,

Physician in charge of Out-Patients, St. Mary's Hospital, London.

[From Dr. Luff's paper :]

When it is considered that the treatment of these three diseases is quite different, the necessity of a correct diagnosis is manifest. I am of opinion that many cases which are diagnosed as chronic rheumatism of the joints are not chronic rheumatism at all ; many of them are cases of rheumatoid arthritis, and a fair number are cases of gout. I believe chronic rheumatism of the joints—chronic arthritic rheumatism—to be a comparatively rare affection ; at any rate it is not very frequently met with. Rheumatism is a disorder which does not necessarily show itself as a joint affection ; it may become manifest in some other way. In other words, there is the articular chronic rheumatism, and there is the abarticular chronic rheumatism—such as the choreic and erythematous forms. As an assistance in the diagnosis of a chronic articular affection, there is a rough but fairly sure test which is frequently of assistance in diagnosis—it is treatment with salicylate of soda. If the case responds well to this treatment, it is a case of rheumatism. If it does not respond to this treatment, the existence of rheumatoid arthritis or gout is fairly certain, as neither of these affections respond well to salicylates.

Rheumatism in its subacute or chronic forms certainly may affect the joints, but it never produces that permanent deformity which the other affections may, especially the lipping of the cartilages and the bony outgrowths already referred to. As regards the actual diagnosis of rheumatism, it is usually fairly easy. If a patient complains of pains in the joints, which pain flies about from joint to joint, and generally affects some of the muscles at the same time, and if, in connection with these flying pains, there are indications of the presence of the rheumatic erythema—erythema nodosum—then the diagnosis of rheumatism is obvious. As a rule, the fitful way in which the joints are affected, the fairly rapid subsidence of the swellings of the joints, and the association of muscular pains, make the diagnosis a simple matter. Then the response of the disease to treatment by salicylates will settle the diagnosis.

As to the distinction between rheumatoid arthritis and gout, I think a mistake is more likely to be made, but it should be avoided if some patient observation is given to the case. The following distinguishing characters show how very different the two diseases are. In the first place, rheumatoid arthritis occurs most commonly in females, gout occurs mostly in males. Rheumatoid arthritis occurs more commonly amongst the poor and ill-nourished; gout mostly among the well-to-do and well-nourished. Rheumatoid arthritis is a disease which is improved by good dieting; in the case of a gouty person a spare and plain diet is indicated. The onset of rheumatoid arthritis is insidious; that of gout sudden and obvious. As regards the commencement of the attack, gout most commonly begins in one of the feet, especially in the great toe joint; rheumatoid arthritis, although ultimately it frequently affects many joints of both hands, nearly always begins in one joint, most commonly selecting one of the joints of the thumb, either the carpo-metacarpal or metacarpo-phlangeal joint, after which it rapidly spreads to the other joints. Then, as regards the appearance. In the case of rheumatoid arthritis there is no obvious swelling at first, and no marked redness. In the case of gout, at its commencement there is very obvious swelling, marked redness, and a shiny condition of the skin around the affected joint. In rheumatoid arthritis there is very little pain at first. There is some aching in the joint, but it starts in a very insidious manner. It is this insidious character of the disease which is one of its bad features, for the patients do not seek advice until the affection is fairly advanced. Gout, however, begins in the most marked manner with severe pain; the patient as a rule waking up in the early morning with excruciating pain in the great toe. Then as to the joint affections. Apart from what has been stated as to gout generally beginning in the foot, and rheumatoid arthritis generally in the hand, there is one joint commonly affected in rheumatoid arthritis which is not affected in cases of gout, that is the temporo-maxillary articulation. I have never seen a case of gout in which the temporo-maxillary joint has been affected, whereas in rheumatoid arthritis it is extremely common for that joint to be affected. Another distinction is this, and it is perhaps one of the most important distinctions, namely, in connection with rheumatoid arthritis there is a remarkable symmetry in the affection of the smaller joints of the hands. In gout that symmetry is wanting. Lastly, in a case of rheumatoid arthritis, sodium biurate is neither found in the joints nor in the blood, whereas in the gouty person sodium biurate exists both in the joints and in the blood.

Little is known as to the cause of rheumatism. Acute rheumatism is, in my opinion, undoubtedly an infectious disease, that is to say, a microbic disease, and in all probability the pains, both articular and muscular, are due to some toxic product which is produced by bacterial agency. Gout is a disease which is due to an accumulation in the circulation of uric acid, in the form of the sodium quadriurate at first, and afterwards in the form of the biurate. The quadriurate is an unstable body, and changes into the biurate, which is at first present in the blood in solution, and later on becomes deposited in the joints. There are differences of opinion as to where that uric acid is produced, and as to whether uric acid is always present in the blood of healthy beings, or whether it is only present under pathological conditions, but there can be no difference of opinion as to the actual causation of gout.

When we come to the etiology of rheumatoid arthritis we are again on debatable ground, although the doubts existing as to the causation of this disease are rapidly being dispelled. I certainly hold the view, which I think is shared by many others, that rheumatoid arthritis is an infectious disease, and that it is due to micro-organisms settling in the joints.

It is not common to get rheumatoid arthritis and gout associated in the same patient. What occasionally does occur is that gouty deposits may form in joints suffering from rheumatoid arthritis, but it is more in the nature of an accident than anything else. A person suffering from rheumatoid arthritis who indulges in rich living for a lengthened period of time, and especially if he takes much wine, may develop gout, and so gouty deposits in the joints of a patient suffering from rheumatoid arthritis may occasionally be met with. Still it is only a complication ; there is no actual relationship between the two conditions, and one does not predispose to the other. Rheumatism certainly predisposes to rheumatoid arthritis, because a person who has been subject to rheumatism has the nutrition of the joints so much impaired for the time, that if there is any opportunity for the specific micro-organisms to gain access to those joints, it is very likely that they will there develop and flourish. That is why cases of rheumatism and rheumatoid arthritis certainly occasionally go together.—*Edinburgh Medical Journal*, *March*, 1900.

12.—ON SPLENIC ANÆMIA.

By WILLIAM OSLER, M.D.,
Professor of Medicine, Johns Hopkins University,
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[The following is from an exhaustive paper by Prof. Osler. The full details of the cases and other parts have been omitted here.]

I give here, as briefly as possible, my experiences with this condition, limiting the cases strictly to those which have presented a primitive splenomegaly and anæmia without enlargement of the lymph glands. I purposely refrain from speaking of anæmia with enlarged spleen in very young children, a subject which requires separate consideration :—

Case 1.—Man aged 36 years ; malaria in India some years previously ; no syphilis ; recurring attacks of hemorrhage from the stomach ; enlarged spleen ; progressive anæmia ; ascites ; death from hæmatemesis.

Case 2.—Girl aged 11 years ; severe hæmatemesis at the ninth year, again at the eleventh year ; anæmia ; swelling of the feet ; enlarged spleen.

Case 3.—Man aged 35 years ; recurring attacks of hæmatemesis and melæna between 1885 and 1897 ; excellent health in the intervals ; chronic enlargement of the spleen ; death in an attack. Anatomical summary : Chronic hyperplasia of the spleen ; liver smooth, microscopically showing no signs of cirrhosis ; microscopically showing only fatty changes.

Case 4.—Man aged 33 years ; no history of malaria or of syphilis ; nearly ten years ago first attack of hæmatemesis ; since then, at intervals of about a year, very severe attacks, in which he vomited blood and passed blood in the stools ; enlarged spleen ; exploratory laparotomy ; stomach and duodenum normal ; liver smooth, not cirrhotic ; removal of enlarged spleen ; recovery.

Case 5.—Man aged 38 years ; no malaria, no syphilis ; eleven years ago first attack of hæmatemesis ; for four or five years recurring attacks of melæna ; in 1892 second attack of hæmatemesis ; an occasional attack of melæna ; January, 1898, severe hæmatemesis and melæna ; great enlargement of the spleen ; marked anæmia of the chlorotic type.

Case 6.—Man aged 20 years ; hæmatemesis and melæna in April, 1889 ; enlarged spleen ; second attack of hæmatemesis October, 1889 ; swelling of abdomen and feet ; melanoderma.

Case 7.—Man aged 40 years ; residence in a malarial district ; no attacks ; no syphilis ; progressive enlargement of the spleen, with anæmia ; melanoderma.

Case 8.—Woman aged 56 years ; recurring attacks of diarrhœa ; tumour in the left side noted three years ago ; no hemorrhages ; progressive anæmia, with greatly enlarged spleen.

Case 9.—Man aged 58 years ; chills and fever when a child—febrile attacks in 1892, six years before death, in which enlargement of the spleen was noticed; gradual anæmia; in May, 1895, ascites; recovery; in May, 1897, again ascites; recovery; progressive anæmia; greatly enlarged spleen; early in 1898 again ascites; repeated tappings; death; spleen enormously enlarged; no cirrhosis of the liver.

Case 10.—Man aged 39 years; residence in a malarial region; occasional attacks of chills and fever; chancre, no symptoms; progressive weakness and anæmia; epilepsy for years; greatly enlarged spleen; anæmia; melanoderma.

Case 11.—Man aged 57 years; in 1891 obscure abdominal attack, thought to be peritonitis; colour not good since; April, 1898, spleen found to be greatly enlarged; progressive anæmia; persistent enlargement of the spleen; stone in the bladder; operation; death.

Case 12.—Man aged 40 years; dyspepsia for many years; July 9, 1899, profuse hemorrhage from the stomach, again on the 16th and 26th; marked anæmia; ascites; paracentesis; greatly enlarged spleen.

Case 13.—Woman aged 44 years; failing health; vomiting and diarrhœa; profound anæmia; greatly enlarged spleen; rapid improvement under treatment.

Case 14.—Man aged 35 years; enlarged spleen; anæmia of chlorotic type; recurring attacks of hæmaturia; melanoderma; diarrhœa.

Case 15.—Man aged 43 years; recurring hemorrhages from the stomach in 1891 and 1892; some abdominal pain; enlarged spleen; anæmia.

From a study of this series I find nothing to throw light on the nature or origin of the anæmia, which remains quite as obscure as in pernicious anæmia, as in the latter disease males appear to be more frequently affected than females—twelve to three in this series. With one exception, all of the cases were in adults above the age of thirty-five. The youngest was a girl of eleven years. Three of the patients were above fifty years of age. Four patients had had malaria. Case 9 had chills and fever when nine years old. Only in Cases 7 and 10 is this disease a possible factor, as the patients had lived all their lives in very malarial regions. Locality has nothing to do with the number of cases here reported. Only four of the patients were natives of Maryland; three came from Canada, and the others from various States. Two of the patients had had syphilis. In four dyspepsia was a special feature, and in two there had been recurring attacks of diarrhœa of great severity.

Before referring to the clinical features, we may speak of one of the most interesting points brought out by this series—namely, the long duration of the affection. Samuel West, in the article on "Anæmia Splenica" in Allbutt's "System," states that the disease is not of long duration—from six months to two years. In several of the cases the symptoms had lasted more than five years. Case 5 has probably had the condition for at least twelve years, and in Case 15 the spleen was as much enlarged four years ago as it is now. *The Spleen.*—In all the enlargement of the spleen appears to have preceded the anæmia. The patient suffered no inconvenience from it, and, as a rule, until discovered by the physician, did not know of its existence. In one case there were recurring attacks of pain in the region of the spleen. In all the spleen was large, reaching nearly to the navel, but only in Case 7 was it of maximum size, equalling the largest spleen of leukæmia. No case presented any difficulty in the diagnosis of the character of the tumour in the abdomen. *Hemorrhages.*—I have already called attention to the remarkable attacks of hæmatemesis in cases of enlarged spleen, whether simple or in leukæmia. In the series here reported eight had hemorrhage from the stomach, and usually after it malaria. In seven cases this was the feature for which the patients sought relief. In Case 5 the hemorrhages have recurred over a period of twelve years. The amount of blood brought up may be enormous, and the patient may be rendered exsanguine. Only in Cases 1 and 3 did the fatal termination follow hemorrhage. In a majority of the cases the diagnosis of ulcer of the stomach has been made. Hæmaturia occurred in Case 14. It was probably not connected with stone, as it never came on with colic, but on several occasions was followed by pain and the passage of moulds of the ureter. Case 7 had on several occasions purpuric attacks. *Ascites*, which was present in three cases, may be due, as in leukæmia, directly to the enlarged spleen, or it may be in part associated with the anæmia. It is important to bear in mind that ascites does not necessarily indicate cirrhosis of the liver. In Case 9 the patient had three severe attacks of ascites, and the liver at autopsy showed no trace of cirrhosis. *Lymphatic Glands.*—In no case in the series were the external lymphatic glands specially enlarged. *Anæmia.*—The patient may present only a very slight pallor, but there may be all grades of anæmia to a form as intense as that met with in progressive pernicious anæmia (Case 13). At least one-half of the patients, when they came under observation, did not present the objective features of a very profound anæmia. One of the most striking features on first inspection was the melanoderma, which was present in six cases. In Case 7 the pigmentation was as dark as in the most advanced cases of Addison's disease. In Case 14 a portion of the skin was examined, and showed none of the ochre-brown pigment of hæmachromatosis. In some of the cases the pigmentation may have been arsenical.

Blood.—The following are the most striking features of the blood in this series: (1) The relatively high blood count: of the fourteen cases the corpuscles ranged above four millions per c.mm. in six cases; between three and four millions in three;

under three millions in four, and below one million in only one case. The average blood count of the fourteen cases was 3,336,357 red blood-corpuscles per cm. (2) The relatively low hæmoglobin. The estimate was not made in four cases; in the remaining eleven the ratio of hæmoglobin to corpuscular richness was low. In Case 13 the hæmoglobin was 23 per cent., with the corpuscles above 30 per cent.; and in Case 4 the hæmoglobin was 25 per cent., with corpuscles at 60 per cent. Of the six counts in which the corpuscles were above four millions (80 per cent.), the hæmoglobin was 45 per cent. in three, 30 in one, 55 in one, and 60 per cent. in one. (3) The low leucocyte count. Of the thirteen cases in which the leucocytes were estimated, there were nine with white blood-corpuscles below five thousand per c.mm. In six cases extreme leukopenia existed. In one case the count was 12,497.

Some additional points may be referred to. *Red Blood-corpuscles.*—Poikilocytosis was present in five cases. Marked endoglobular degeneration was noted in two cases. Nucleated red blood-corpuscles were met with in two cases; in Case 13 in enormous numbers, both normoblasts and megaloblasts. *White Blood-corpuscles.*—As already mentioned, marked leukopenia was present in six cases. Differential counts of the leucocytes were made in ten of the cases. In the following cases there were changes in the proportion of the large and small mononuclears: in Case 7 the large mononuclears were more numerous than the small; in Case 8 the small mononuclears were 25 per cent.; in Case 9 the small mononuclears were very high, 52 per cent.; in Case 13 the small mononuclears were 19 per cent.; in Case 14 the small mononuclears were 14 per cent. Altogether there was nothing in the differential count of any special moment or significance.

[The author discusses the diagnosis at considerable length. Pernicious anæmia, Hodgkins's disease with enlarged spleen, cirrhosis of the liver with enlarged spleen, alcoholic cirrhosis, syphilitic cirrhosis, and hypertrophic cirrhosis are the conditions in which there has been, in the author's experience, a difficulty in the differential diagnosis.]

Doubt has been expressed as to the existence of a separate and distinct disease to which the term splenic anæmia should be given. We do not know whether the anæmia is the result of the enlarged spleen, or whether, as seems more probable, both are secondary to some cause as yet unknown. Provisionally, until we have fuller knowledge, it is useful to group together, as I have done here, cases of idiopathic enlargement of the spleen with anæmia and without lymphatic involvement, and to label the condition splenic anæmia. There are borderland cases difficult to classify; but, on the whole, the composite picture, as obtained by grouping the fifteen cases here recorded, has tolerably definite outlines.

The treatment is that of the severe types of anæmia. Case 13 illustrates how rapidly improvement may follow under iron, arsenic, sunshine, and good food. In the chronic cases with recurring hemorrhages the question of removal of the spleen should be considered. It was successfully carried out in Case 4, and the patient has remained well for more than a year. —*American Journal of Medical Science, January*, 1900.

13.—ADDISON'S DISEASE.

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[The following is taken from Dr. Box's paper. The supra-renal treatment was tried in some of the cases. The full details of the cases are omitted here.]

The following series of cases of Addison's disease appeared to be of sufficient interest to justify publication in the "Reports," although it is regretted that the clinical examination was not in all cases complete. Six of the cases came under observation at the hospital within a period of twelve months, a fact somewhat remarkable, seeing that for many years past the number of cases of this disease admitted to the wards rarely exceeded one in twelve months. The series consists of four males and four females. In all save one a *post-mortem* examination took place. In six cases an attempt was made to treat the disease by the administration of supra-renal bodies. As in four instances the patients so treated were already in the last stages of the disease when admitted to the hospital, and died shortly after, it is obviously unfair to attempt to draw any deductions from the failure of the treatment in these, so we may be content to give the following particulars concerning them. In one the attempt to administer the gland by mouth failed by reason of the patient's inability to retain anything in the stomach ; in one the patient was fed with supra-renal for twenty days at the rate of one and a half sheep's glands daily ; in one the patient was under observation for ten days, and during that time received 90 grains of supra-renal. The fourth was under observation for fifteen days, and during that time took 1,305 grains of supra-renal without the slightest benefit. The two remaining cases were treated for longer periods, one living for 95 and the other for 121 days after admission. It is calculated that the first of these patients received 3,255 grains of supra-renal body and the second received 7,200 grains. No appreciable improvement took place. In particular, the pulse tension did not appear to be increased; but it is only fair to state that the tension was estimated by the finger, and not by the sphygmometer. It is true that sometimes for a few days the patients appeared to have improved, but these periods were always followed by a return to their former languid condition, and appear rather to be a part of the natural history of the disease than a result of the treatment adopted. Both patients complained much of pain and stiffness in the legs, and particularly in the knee-joints. There was no joint swelling, but in one there was slight grating on passive movement, and in the other a tendency to contracture. Bearing in mind the symptoms which sometimes result from overdosage of thyroid gland, one was inclined to think that possibly the supra-renal preparation was responsible for these pains, but Merkle is quoted by Byrom Bramwell as having observed the occurrence of very severe joint pain without swelling in the course of Addison's disease.

Since Schäfer and Oliver found that the active principle of the supra-renal body was not destroyed by artificial digestion, the administration of the gland by mouth in Addison's disease has been assumed to be theoretically correct. The method of preparation adopted at St. Thomas's Hospital is as follows:—Perfectly fresh supra-renal bodies from sheep are obtained. The outer parts, which consist of a firm fibrous capsule, and weigh nearly a quarter of the whole, are first removed. The remainder, which includes some of the cortex and the whole of the medulla, is then intimately mixed with powdered tragacanth and 1 per cent. of salicylic acid added for preservation. The resulting mass resembles sausage-meat, and is put up in capsules, each of which contains the equivalent of 15 grains of supra-renal body. Liquorice powder was first used in place of the tragacanth, but discarded on account of the tendency of the mass to become mouldy. It will be noticed from the record of the cases that in some instances this preparation was administered by the rectum. It is, however, not unanimously agreed that the physiological effects of the supra-renal substance can be obtained by exhibition by the stomach or bowel, for Vincent could produce no reaction in rabbits and dogs by large doses of supra-renal substance, and O. F. F. Grünbaum was unable to raise his own blood-pressure by taking supra-renal extract by the mouth. Bearing these facts in mind, we consider that it would at least be well to give the method of hypodermic injection a further trial. The great difficulty with this method of administration is the preparation of an absolutely sterile and, at the same time, potent preparation. The red blood-discs were counted in three of the cases with the following results. In Case 3, a man who died fifteen days after admission, and was therefore in an advanced stage of the disease, the count showed 5,468,750 red cells per c.mm. In Case 5, a woman, eleven weeks before death the red cells were 3,850,000 per c.mm. and the hæmoglobin 56 per cent. In Case 6, also a woman, the count three months before death showed 5,000,000 red cells per c.mm. These figures quite bear out the statements of modern authors that anæmia, if present at all in Addison's disease, is of moderate severity, and particularly emphasise the importance of a careful blood examination in the differentiation of these cases from those of pigmented pernicious anæmia, which frequently bear such a striking resemblance to them both in appearance and symptoms. It is very significant that Addison discovered the disease which bears his name whilst he was searching for the cause of pernicious anæmia. Pigmentation of the mucous membrane of the mouth was present in four only of the cases here recorded. This pigmentation always consisted of light brownish smears situated just within the angles of the mouth; but, in addition, in one instance there were black specks in the mucous membrane similar to those often seen in the skin in this disease. In one patient the mucous membrane of the lips was also darkly stained. All the cases which presented buccal pigmentation showed also very definite pigmentation of the skin, whilst in three of the four in which buccal pigmentation was absent the pigmentation of the skin was exceedingly slight. Particular attention was paid to the presence of moles and pigmented spots as of possible value in diagnosis. In six of the cases specks and moles were present, and were mostly distributed on the face and neck. In one instance small black spots were present on the forearms, and, as mentioned above, they were once present on the mucous membrane of the interior of the mouth.

It is notoriously difficult to fix the duration of Addison's disease on account of the insidiousness of its onset. It is probable, therefore, that the history of only three days' illness obtained in Case 7 is erroneous. The case is nevertheless remarkable on account of its acute character. The longest history obtained was that in Case 8, where two years was said to be the period. The average duration of the disease in hospital patients is said to be probably about two years, and in patients living under more favourable circumstances Byrom Bramwell considers that a duration of five or six years may not be uncommon. The supra-renal bodies were caseous in five of the seven cases in which a *post-mortem* examination was obtained. In one case the bodies were fibrous and atrophied, whilst in Case 3, although they were evidently diseased, there was no naked-eye evidence of tuberculosis. It will be seen from the report that a healthy guinea-pig was successfully inoculated with tuberculosis from the supra-renals of the last-mentioned case. This fact is of extreme interest, and I am indebted to Dr. Colman, at whose instigation the investigation was undertaken, for permission to include it in this account.

Case 1.—Addison's disease; pigmentation of skin and buccal mucous membrane; caseous supra-renal bodies; pulmonary tuberculosis and tuberculous peritonitis.

Case 2.—Addison's disease; pigmentation of skin but not of buccal mucous membrane; atrophied supra-renal bodies; obsolete tuberculosis of lungs; pleural adhesions.

Case 3.—Addison's disease; pigmentation of skin and of buccal mucous membrane; old empyema; supra-renal feeding by mouth and by rectum; supra-renals enlarged and translucent.

Case 4.—Addison's disease; obscure case; slight pigmentation of skin and none of buccal mucous membrane; caseous supra-renal bodies; old and recent pulmonary tuberculosis; old pleural and recent pericardial adhesions; caries of spine; supra-renal feeding.

Case 5.—Addison's disease; pigmentation of skin, buccal mucous membrane, and lips; caseous supra-renal bodies; old pleural and peritoneal adhesions; mitral obstruction; supra-renal feeding.

Case 6.—Addison's disease; pigmentation of skin and buccal mucous membrane; delusions; supra-renal feeding; no autopsy.

Case 7.—Addison's disease; slight pigmentation of skin only; rapid course; caseous supra-renal bodies breaking down; diagnosis only made at autopsy.

Case 8.—Addison's disease; slight pigmentation of abdomen only; delusions; caseous supra-renal bodies; supra-renal feeding.

—*St. Thomas's Hospital Reports, Vol. xxvii.*

14.—INTERNAL BLEEDING.

[A leading article from the *Journal of the American Medical Association.*]

It is usually with a feeling akin to helplessness that the physician looks on at a case of internal bleeding which is taking place in the brain or viscera. His text-books have recommended ergot and a host of other drugs, but their practical utility has not been demonstrated. In order to be able to control internal bleeding by other than surgical means, which in the present discussion are not applicable, at least three factors should be borne in mind. If one could increase the internal coagulability of the blood to any marked extent some good might come of this procedure. A second means which deservedly has met with little favour consists in the injection, *in situ*, of local astringents. The third method employs pharmacologic agents which can modify the circulatory apparatus. The amount of blood which could flow from a vessel is determined by the diameter of the vessel, the tension of the walls of the vessel, and the pressure of the column of blood. On general grounds, it would then appear that an agent that would constrict the blood-vessels could prove of service in the control of internal bleeding. In order, however, to be of any practical value this vasoconstrictor action must involve a comparatively large area, and in order to accomplish such an action a harmful increase in the blood-pressure seems inevitable, and conversely it is also true that those means at command that decrease such blood-pressure almost invariably produce dilatation of the smaller vessels.

Along the lines of the first method indicated, that of altering the internal coagulability of the blood, recent researches are interesting and suggestive. Wright, Dastre, Beck and Nichols, and many others following them, by the subcutaneous use of peptones and calcium salts and also gelatine solutions, have demonstrated that the coagulability of the blood can be markedly altered, but up to the present time practical results of sufficient width of application have not been forthcoming, though for certain lines of work their use deserves repeated trial. The second method of injection of local styptic agents has a field of restricted application, but with the newer tannin preparations and with suprarenal extracts it might readily be broadened. The influence of pharmacologic agents acting on the blood-vessels has claimed the attention of many observers, but none have so carefully borne in mind in their experimentations the horns of the dilemma of vessel constriction and increased blood-pressure as has been done by a recent worker, F. Pick, of the University of Prague, who has gone over the whole subject most exhaustively. The conclusions arrived at from a long series of intricate experiments are worthy of attention, especially as the number of drugs experimented with is exceptionally large.

Without attempting to summarise all the results, we may say that he finds that certain agents, like chloroform, with lowered blood-pressure, diminish the peripheral flow, while at the same time they increase that from the jugular and mesenteric veins, and others still, like barium chloride and carbolic acid, increase the jugular flow while reducing that from the abdominal and peripheral veins. Still others present differences in the degree of action on different parts, some seem to act exclusively on the peripheral vasomotors, others on the vasomotor centers.

The practical teaching of his results is that the fact that a certain agent exercises a constringing effect on the vessels of one set of organs is not to be taken as indicating that it will be equally effectual in another part of the body, since it is evident that no one drug affects the various subdivisions of the vascular system with the same efficacy. Of the remedies applicable in cases of internal hemorrhage, ergotin proved valueless, but both hydrastinin and atropin have well-founded claims to therapeutic recognition. Still, the conclusion reached concern only the domains of the peripheral, mesenteric and jugular veins, and whether the same facts hold good for the pulmonary region, which is the field where such agents are most often desired, is still a question for research.

Formulating, as we are accustomed to do for other classes of drugs, the properties needful to entitle an agent to take rank among the hæmostatics, we find that: It must either decrease the force of the heart, at the same time lowering the blood-pressure, without a concomitant vasodilation, or it must set up a degree of vasoconstriction intense enough to more than compensate for the increased outflow attending the greatly heightened blood-pressure. Whether or not it is possible to find these essentials united in a single remedy or in a combination of two or more can only be determined by further researches carried out along the same lines.—*Journal of the American Medical Association*, *November* 18, 1899.

15.—HYDRIATIC MEASURES IN FEBRILE DISORDERS OF INFANCY AND CHILDHOOD.

By SIMON BARUCH, M.D.,

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[The following is taken from Dr. Baruch's very practical paper:]

The superiority of hydriatic measures over drugs in the management of febrile disorders lies in the fact that by their use we may prevent and combat the ever-present danger of heart failure. The application of water, more or less lower than the body temperature, to the skin, if it be judiciously adapted in temperature, duration and mechanical impact to each individual case, restores the lost tone of the cutaneous vessels, which are capable of holding two-thirds of the entire blood supply of the body. Resulting from their restoration to normal action, we have increased resistance to the blood current, the cardiac systole is enhanced, as is evidenced by increase of pulse tension, diminution of pulse rate, and removal of dicrotism. The rationale of the action being once grasped, and the fact being recognised that not the reduction of temperature, but the enhancement through the nerve centres of the functionating capacity of all the organs of the body, is the object of cold water application, its field of action becomes unlimited. In the early stages of all febrile diseases of children the full baths referred to are of value, when the body temperature remains persistently high, and the accompanying discomforts of fever are pronounced ; and yet simple ablutions often suffice to secure favourable effects. The wet pack, the sheet bath, the wet compress may be resorted to, each having, as I shall show, its individual advantage and applicability. An important point, and one which is too often neglected, is the necessity of precise directions to the nurse, not alone with regard to the technic of the procedure, but also with regard to its temperature and duration. The common practice of passing a damp sponge over the hot skin of a fever patient is of questionable value. It may be somewhat refreshing in mild non-infectious fevers, by reason of the cooling effect due to evaporation of the moisture. But the true stimulating effect upon the central nervous system and the cutaneous vessels, which is needed in the more pronounced febrile disorders of children, can only be elicited by adding gentle mechanical irritation. This may be best accomplished by using a gauze, or other soft wash-cloth, and allowing more or less of the cold water to flow over the skin. Only by using both methods—sponging and ablution—in the early days of an infectious fever, may the inadequacy of the former be appreciated. In all febrile disorders of children, I am in the habit of ordering hourly or two hourly ablutions, beginning with water at 90 deg., and reducing one degree each time until 60 deg. are reached, as an initiatory measure. Their good effect may be readily sustained by a wet compress, composed of three folds of old linen cloth, or toweling without fringes, more or less wrung out of water at 70 deg.—60 deg., covered with thin flannel to keep the bed clothing dry, and snugly applied every hour to the anterior part of the body (abdominal compress). I do not approve of covering the wet compress with oiled silk, because it converts the cold compress into a warm poultice, requiring more frequent renewals, whilst the flannel covering permits evaporation through its meshes, and maintains the cooling effect. When the body temperature exceeds 103 deg., it is a good plan to allow more water to remain in the compress, just wringing it out sufficiently to prevent its running over and moistening the clothing. In this manner, the larger quantity of cold water used abstracts more heat, and enhances the shock, and consequent reflex stimulus. The flexibility of this agent thus becomes apparent.

In the pneumonic fevers of children, I am in the habit of using the gradually reduced full bath, placing the child's entire trunk into water at 96 deg., using continuous friction over the body, while another person adds ice water so as not to touch the body, until the bath water is reduced to 85 deg. or 80 deg.—duration five to eight minutes. Such a bath should be followed by drying and friction. Note the difference in technic between the full bath described as useful in typhoid fever, and this full bath. Both would be termed cold baths, when given to patients with temperatures ranging from 102 deg. to 105 deg. In the first, the water temperature is reduced several degrees before each bath, until 75 deg. are reached. Drying is not recommended. The bath lasts from ten to fifteen minutes, because such a bath stimulates the nervous system which is more or less indifferent to the disturbance involved in it. The full bath for pneumonia lasts five to eight minutes, is gradually reduced during the bath from 95 deg. down to 80 deg. each time. Drying is advised, because the pneumonia patient has been shown by experience to be less resisting to cold water, and by reason of the pain, cough, and embarrassed respiration, he cannot bear so disturbing a measure as the colder bath, which is so useful in typhoid fever. Here, again, you have an intimation of the flexibility of hydriatic measures, how by a simple change of the technic, guided by experience, they may be adapted to varying types and conditions of fever—a flexibility which is totally absent in medicinal agents.

In pneumonia I have found the chest compress at 60 deg., repeated every hour or two, an effective auxiliary. It deepens the inspiration, temporarily increases cough, and thus aids in the expulsion of stagnant secretions; it arouses the heart, causing cyanosis to disappear for a time at least, and afterwards, when the compress gets warm, we have the poultice effect of calming irritation, inducing sleep, and relieving pain, without the relaxation incident to the old-fashioned warm poultice. The assent of parents is sometimes difficult to obtain, owing to the popular antipathy to cold water. A little stratagem will overcome the latter. I usually begin the compress with 100 deg., which being several degrees below the body temperature, is not relaxing; then gradually reduce each one two to five degrees, until sixty are reached. The child's improvement, calm slumber, deeper inspiration, and bettered facial expression soon cause all opposition to disappear. In those desperate conditions of broncho-pneumonia, whether idiopathic or complications of the exanthemata, in which positive stimulation is needed, when the skin is cyanotic, the respiration shallow, pulse rapid and almost imperceptible, extremities cold, though internal temperature be high, I am in the habit of ordering a stimulant, and personally administering an affusion with a basinful of water at 60 deg. poured with some force over the shoulders of the child, while the latter is held semi-recumbent in a tub of water at 105 deg., reaching to the navel. This is a measure of great value. Followed by drying and friction, and repeated every hour or two, increasing the number of basins of water gradually up to four, I have observed the overloaded bronchi relieved, the inspiration deepened and calmed, expectoration increased, cyanosis removed, the pulse greatly improved. Indeed, the entire aspect of the case often changes, after the judicious application of such an affusion. The latter is also indicated in the early stages of those severe scarlatinas and measles in which similar conditions exist without pulmonary complications. I do not, as a rule, find cold full baths well borne in scarlatina, and for this reason I mostly resort to ablutions rapidly administered. There are, however, cases encountered, in which full baths help to tide the patient over threatening conditions of hyperpyrexia and heart failure.—*Pediatrics, January* 1, 1900.

16.—ON THE DIETETIC TREATMENT OF DISEASE.

By J. DRESCHFELD, M.D., F.R.C.P., B.Sc.,
Professor of Medicine, Owens College; Physician Royal Infirmary, Manchester.

[The following is taken from an interesting address given before the Therapeutic Society of Manchester :]

The laws which govern nutrition in health must guide us in the dietetic treatment of disease. We know the amount of food necessary to keep the nutrition of a healthy person in a state of equilibrium, and we know the diet of a healthy adult ought to be a mixed diet :—Albuminoids, 100—140 grms. ; fat, 60—100 grms. ; carbohydrates, 350—450 grms. ; and salts ; a total giving out from 2,500—3,500 calories. We also know that we may substitute fat for carbohydrates, fat and carbohydrates for albuminoids in certain definite proportions, without disturbing the equilibrium, and these considerations must be before us in the treatment of disease. Dieting should not be confined to cases when the disease is developed ; it forms the pillar of the prophylactic treatment in persons liable either by family inheritance or by personal predisposition to such affection as rheumatism, gout, arterio-sclerosis, Bright's disease, and so on. In most diseases our object is to maintain the body weight, and in most chronic diseases to prevent loss of body weight, and in some cases as, for instance, adiposity, some cases of gout, our object is to diminish the body weight, whilst in a good many diseases we have recourse to over-feeding or over-alimentation. To speak first of the dietetic treatment of *fevers*, we have to distinguish the *acute* from the chronic fevers. Speaking of *acute fevers*, the question arises how by diet we can influence the resistance of the body against the invading micro-organism, and how far we can compensate for the increased consumption in fever. It is well to give the fever patient an abundant quantity of food. This is now sufficiently recognised, but is it advisable to give in some fevers, as in typhoid, solid nitrogenous food, as some recommend? There is a general agreement that in most cases sufficient nourishment may be given by putting the patient on a diet of milk and carbohydrates; it is only when the patient cannot take milk, small quantities of raw scraped beef may be taken, or some of the artificially-prepared foods, such as somatose, eucasein, given in beef-tea or broth.

As the thirst in fever is very much increased, it is well to be careful, and give the patient not too much liquid food. I particularly allude to cases of typhoid and of pneumonia. In typhoid we often notice, when large quantities of milk are taken, that the diarrhœa and tympanitis are increased by particles of undigested milk; and in pneumonia, where often the patient will take enormous quantities of milk, the large amount of fluid taken is apt to give the weak heart greater strain than it can bear, and may lead to cardiac dilatation. It is also apt to cause tympanitis—which, by distension of the abdomen and by pressure on the thoracic cavity, is apt to be harmful. Considering the heat production by food in fever, a word must be said about alcohol, sugar, and fat in acute fever. Alcohol undoubtedly prevents the burning up of non-nitrogenous substance, and as one gramme yields seven calories, and as it is well borne, easily assimilated, and has a tonic effect on the heart, and a calming effect on the nervous system, it should be given in fevers, but the quantity should be carefully regulated. Sugar has been recommended, not only on account of its heat-producing action (1 gramme sugar = 3·8 calories), but also because it appears to revive the tired-out heart muscle. Solution of sugar and sugar of milk added to milk may be given (Leyden). Fat, in the form of cream, may be given in the milk. There are some preparations (such as Gärtner's milk, often used on the Continent) in which additional fat has been added to milk, which should form a useful addition to our dietary.

The importance of the dietetic treatment in *chronic febrile* disease is sufficiently seen in the treatment of phthisis. The open-air treatment of phthisis is now recognised by all as the best treatment, but a most essential part in this treatment is the proper feeding of the patient ; this is not sufficiently borne in mind by many who have advocated and who have practised this treatment in England. The emaciation is a marked feature in phthisis, and with an increase in weight the general condition improves, and often we notice also an improvement in the local physical signs, in the temperature, night sweats, and pulse. The object of the open-air treatment, in which the dietetic treatment forms an essential part, is to gain this end. The emaciation in phthisis is not altogether due to the pyrexia, nor to the effects of the toxins and toxalbumens of the tubercle bacillus ; it is due to some extent to the diminished appetite, to the discomfort which the patient often experiences after food, and which prevents him from taking much food. Such treatment as is likely to benefit the patient can best be carried out in special institutions, and where the culinary arrangements are particularly well looked after, and where the physician is the general superintendent, who notices how much and what the patient eats. The quantity of food required by phthisical patients corresponds to about 30 to 35 calories per kilo., or 2,100 to 2,450 for an adult of 70 kilos. weight, and in order to obtain this we have to consider quantity as well as quality, and to give fat, in whatever form, in sufficient quantities, is essential, owing to its high caloric value.

The dietetic treatment of some general diseases next requires our attention. The dietetic treatment of gout has for its object: (1) To diminish the formation of uric acid, (2) to increase its elimination by the urine, and (3) to further its oxydation to urea. How far can we effect this by diet?

If we consider the various articles of food, we find here very diversified opinions. I do not think that the same treatment should apply to all cases of gout. The nitrogenous diet, generally speaking, is best suited to those cases where the patient is stout, has dyspeptic symptoms, passes urine not rich in urea. Some appear to do best on a vegetable diet. A diet rich in proteids and carbohydrates often gives rise to dyspeptic troubles.

In *diabetes* the dietetic treatment alone in many of the lighter cases is sufficient to bring about the disappearance of the sugar from the urine. The effect of glycosuria on nutrition has been carefully studied by v. Noorden, and led him to make some recommendations as to diet which are of great importance. The diabetic patient requires food of the same nutritive value as the healthy, or which may be expressed, according to the physical work done by him, by 2,400—3,000 calories. As the diabetic patient passes sugar with the urine, he loses the calories corresponding to the quantity of sugar ; in the severe cases it is not only at the expense of the carbohydrates, but also at the expense of the proteids that sugar is formed, and, therefore, the deficit is still greater. Now, as many of the starchy foods which we take contain also fat, the restriction of the carbohydrates, unless precautions are taken, entails also a diminished quantity of fat in the food. To keep up the nutrition and to bring up the potential energy to its normal, v. Noorden suggests the addition of much fatty food to the dietary of the diabetic. This may be given in the form of fat beef or mutton, bacon, butter, cream, salad oil, &c. If the quantity given is not enough, cod liver oil or lipanin may be given. To give excess of nitrogenous food instead of fat has its disadvantages, for large quantities of proteids are necessary, and in severe cases of diabetes acetonuria may be caused thereby. Besides fat we may also recommend alcohol, which in diabetes, as in other diseases, acts as food. The administration of alcohol enables the patient to take the fatty food better, and it has also a stimulating effect on the heart. One gramme of alcohol gives 7 calories ; one gramme of fat gives 9·3 calories.

Before concluding these brief remarks about the diet in diabetes, I wish to draw attention to two points : (1) that in the milder cases of diabetes we often find a certain tolerance for small quantities of carbohydrates, which may then be given, and (2) that with the threatening of diabetic coma the strict diet should be at once relinquished, large quantities of fluid, and, if necessary, infusion of salt solution, stimulants, and large doses of alkalies should be given.

A word now about the diet in chronic Bright's disease. I will confine myself entirely to the granular kidney. Prophylactic treatment may do here a great deal more than in many other affections, and in the pre-albuminuric stage and the early stage of the granular kidney a carefully-regulated diet, which contains only a small quantity of proteids, whilst fat and carbohydrates must make up the necessary residuum to give sufficient heat value, is indicated. Though the body loses albumen by the urine, yet it is not well to give large quantities of albumen, as thereby the kidney epithelium is likely to be injured, the blood tension raised, and gastric disturbances ensue. Now as to the kind of nitrogenous food, milk is recommended by all, eggs (but not raw eggs, as they may cause increase of albumen in urine), and white-fibred meat, such as that of fish, chicken, rabbit—red-fibred meat is forbidden by most. v. Noorden and others before him have expressed the opinion that the exclusion of red-fibred meat is not based on any sound principle, and that it may be given, provided it is not given in too large quantities. It is alleged that the red-fibred meat contains more extractive matter, which acts as an irritant to the kidney epithelium. But this, according to v. Noorden, is not true ; and white meat appears to contain more of the extractive matter, such as kreatin, than red-fibred meat.—*Medical Chronicle*, *December*, 1899.

17.—SOME RECENT REMEDIAL MEASURES.

[The following is taken from a leading article in the *Therapeutic Gazette*:]

One of the newer therapeutic measures which offers considerable advantage in the treatment of grave and pressing complications is the hypodermic injection of sterilised salt solutions containing gelatine, for the purpose of arresting hemorrhages which cannot be stopped by means of direct application or compresses. This method, which is supposed to act by very materially increasing the coagulability of the blood, has been employed to such a large extent in France that it is there recognised as being a wise procedure, and in our own experience with it in this country it has given results which justify a continuance of its employment. It is hardly necessary to point out that these gelatine saline injections must be given under the strictest antiseptic precautions both in regard to the preparation of the skin of the patients, the solution itself, and the needle and syringe with which it is administered. The injections have apparently given good results in forming the clots in the aneurismal sacs, in arresting pulmonary hemorrhages, and in controllig other more constant but less active loss of blood. The injection commonly employed consists of 18 grains of ordinary gelatine and 18 grains of sodium chloride, in two ounces of distilled water, which should be administered with an antitoxin syringe, divided into two doses of an ounce each. When aneurism is to be treated by this method, an injection every day or every other day is sufficient. In more pressing cases where the gelatine is to be used but for a short time, two injections may be given in the same twenty-four hours.

Another remedy which is surely obtaining a very definite therapeutic rank is takadiastase, the ferment obtained by the process of Takamine, of Japan, and which is used for the treatment of those very common forms of dyspepsia arising from faulty digestion of the starches. There is no doubt whatever that this substance given in capsules alone or combined with some bitter substance like nux vomica, or some general tonic like arsenic, will often give an immense amount of relief.

Still another preparation of even more recent introduction is heroin, which is the diacetic acid ester of morphine. This preparation has been introduced into medicine for the purpose of allaying cough, and is substituted for codeine. It has a great advantage in that it is poisonous only when given in a dose which exceeds by one hundred times that dose which is therapeutically efficacious. It is supposed to produce sedation of the peripheral sensory nerves of the respiratory tract without depressing the respiratory center. Indeed, it is claimed that under its influence the respiratory activity is increased rather than decreased, and therefore that under its use the same disadvantages do not arise as when morphine or codeine is employed to allay cough. While the exact therapeutic standing of heroin may not yet have been decided, the results which it has achieved promise for it a permanent place in therapeutics. The dose, it will be remembered, is from one-sixth to one-third of a grain.

Still another remedy which has certainly come to stay is holocaine, which finds its chief usefulness in ophthalmologic surgery as a local anæsthetic. Special journals devoted to the eye have recently contained many articles in which reports have been made as to the exact sphere of usefulness of this new synthetic substance. Among others who have tried it, and whose experience with it is worthy of note, may be mentioned Hasket Derby, of Boston, whose article upon its value originally appeared in the *Archives of Ophthalmology*, and was abstracted in the *Gazette*, and who, after a very extended trial, concludes that it possesses certain advantages over cocaine in that it does not cause mydriasis, and therefore does not tend to increase tension. It does not affect accommodation. It produces a greater degree of anæsthesia of the iris than does cocaine. It relieves severe and painful inflammation which resists cocaine, and unless swallowed or injected subcutaneously does not produce poisoning. Finally, and very important, it has no roughening influence on the cornea, and is strongly antiseptic in its action. On the other hand, it does not tend to control hemorrhage as does cocaine, since it does not cause primary contraction of the blood-vessels. It may be employed in one-half to one per cent solution.

Still another drug which possesses very great usefulness is urotropin, a compound containing formaldehyde, which, on being absorbed, is decomposed so that the formaldehyde is set free in the urine, exercising its powerful antiseptic influence. As a result it has proved itself of very great value in the treatment of cystitis associated with phosphatic and alkaline urine, not only exercising a useful, permanent influence, but often giving relief after a very few doses have been taken. It has also been found by Richardson to be a valuable drug for the purpose of preventing the spread of infection by typhoid fever germs, since it so disinfects the urine of typhoid patients that the bacillus of Eberth is destroyed. The dose of urotropin commonly employed is eight grains dissolved in half to one tumblerful of sparkling water, and taken three times a day.

Another drug known to practitioners for many years, yet not as widely employed as it would seemingly deserve, is *Apocynum cannabinum*, a medicinal plant to which considerable attention has been paid in the columns of the *Gazette* during the past year. There is no doubt whatever that a good fluid extract of this drug, in the dose of from one to five minims, twice, thrice, or four times a day, is capable of giving very great relief in cases of cardiac dropsy, both by its influence upon the heart and upon the kidneys. In overdoses it is apt to act as a violent purgative, and care should be taken that too great irritation of the gastro-intestinal tract is not produced by its use. Care should also be taken that the *Apocynum cannabinum* is used, and that *Apocynum androsæmifolium* is not dispensed for it through an error on the part of the collector of the fresh plant.—*Therapeutic Gazette, January* 15, 1900.

18.—CODEINE AND ITS SALTS.

By GEO. J. LOCHBOEHLER, Ph.D., M.D.,
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Georgetown Medical College, Washington.

Codeine is administered alone or as one of its salts. It forms combinations with the mineral and organic acids, which are much more soluble than the alkaloid itself. The acetate, citrate, hydrobromate, hydrochlorate, hydroiodate, nitrate and sulphate have physical and therapeutic properties in common and are soluble in from five to twenty parts of cold water, more so in hot water, from which they recrystallise to a certain extent on cooling. The phosphate is a white crystalline powder, soluble in four parts of cold water, and is especially suited for hypodermic use, as it is less irritating than any of the other salts. The salicylate is said to possess, besides analgesic, anti-rheumatic properties, while the valerianate is especially beneficial in nervous troubles. All the salts of codeine are subject to the general rules of incompatibility. With regard to the pupils, in therapeutic doses, no especial changes take place, but in toxic doses considerable dilatation is present. Locally, neither codeine nor morphine produces mydriasis.

Cohen thinks the dose as given in most text-books is too large. While the drug may safely be given, if necessary, in doses of from 2 to 6 grains, on the basis that its narcotic power is but one-fourth that of morphine, yet, in medicinal usage, its dose need not ordinarily be greater than would be the dose of morphine in the same conditions, and he frequently gives 1/16 grain and rarely exceeds half grain. It should, however, be repeated much more frequently than would be safe with morphine, and one advantage over the latter is the safety of frequent repetition. The greatest advantage of codeine over morphine, however, is that it is less likely to create a morbid drug habit, and that in the unfortunate cases in which its long and continued use becomes necessary, it does not cause the distressing results that a similar use of morphine often entails. As compared with morphine the sedative and hypnotic effects are greater, its anodyne and narcotic effects less. On the normal secretions its effects are less marked than those of morphine, and in moderate doses, constipation, dryness of the throat, diminution of urine and of perspiration are not usually produced. In bronchitis it is a valuable remedy for the relief of the harassing pain of the cough, and when combined with one of the coal-tar antipyretics, the analgesic effects become more pronounced. Another advantage of codeine over morphine, one of special value in bronchial catarrh, is that the patients not only cough less but also expectorate more easily than on morphine. The cough-dispelling power of codeine is such as to make it indispensable in phthisic patients, and a point of great importance in these cases is that it does not impair the appetite or digestion, and can therefore be used uninterruptedly for months. That codeine has the power of diminishing the excretion of sugar in cases of diabetes mellitus is shown by the leading authorities, who recommend it as the only drug in the medicinal treatment of that disease.

Lauder-Brunton was the first to use codeine in abdominal pains. He found it relieved the violent pains in perityphlitis in 1-gr. doses; in another of abdominal tumour, half gr. of the drug; and in a third case, one of fæcal impaction, 1 gr. sufficed to relieve the pains without disturbing the function of the intestines. He also employed it successfully for the pains from carcinoma of the liver and pancreas. Freund used it in diseases of women, and found that pain of uterine origin, whether accompanying dysmenorrhœa, acute or chronic diseases, can be temporarily relieved, but never to such an extent as with morphine or opium. Codeine has thus a great and usually very prompt influence on pain proceeding from the ovaries, such as due to displacement or prolapse, oöphoritis, acute or chronic perioöphoritis and ovarian neuralgia; the pains invariably diminish even after small doses, and in most cases disappear entirely as long as the action of the drug continues.

As a sedative in the insane, Dornblüth gave it internally in 448 cases, and codeine phosphate hypodermically in 34 cases. In all but two of the cases it quieted the patients in from three to twelve hours. The doses were gauged according to the degree of excitation present. In maniac conditions it has a weaker action than hyoscine, but he prefers it when the latter causes hallucinations. It was found very useful in all cases where anxiety, præcordial distress and insomnia were present. Codeine as a sedative and anodyne is more useful and appropriate than morphine or opium, where a mild effect is desired. In the treatment of the morphine habit, Schmidt employed injections of a 10 per cent. solution of the phosphate. It moderates the symptoms attending the withdrawal of morphine, even to the point of tolerance; it does not prolong the duration of the treatment, causes the morphine craving to vanish permanently, and disagreeable collateral effects, which develop with the increase in dose, prevent the abuse of this narcotic as a remedy. Professor Rosenthal, of Vienna, also uses the hydrochlorate for this purpose, giving 1/3 to ½ gr., and, separately, 30 to 45 gr. of sodium bromide in solution as an adjuvant.—*Journal of the American Medical Association*, *December* 2, 1899.

19.—THE THERAPEUTICS OF HEROINE.

By Morris Manges, M.D.,

Professor of General Medicine, New York Polyclinic.

[From Dr. Manges's paper, which is based on reports of 416 cases, including 75 of his own.]

In the relief of the cough of acute bronchitis, heroine acted very promptly as a rule, and not alone was the cough relieved in a very short time, but also the whole general condition of the patient was rapidly improved. The cough of chronic bronchitis reacted favourably as a rule, to heroine, but the results were not constant. This difference depended in a large measure upon the effect upon the bronchial secretion. Where this was diminished the patients complained of the drug. This effect, however, was corrected by combining it with potassium iodide or terpene hydrate. Others preferred combinations with squills, ipecac, &c. In bronchiectasis the results corresponded in a degree with those observed in chronic bronchitis. If the proper precautions were observed as regards lowering the head and upper part of the body, so that the patient could get rid of much of the accumulated secretions by gravity, a few small doses of heroine during the day and a large dose at bedtime made the patients very comfortable. In acute pneumonia the results were very gratifying, since in most of the cases the harassing cough was speedily controlled, and the patients' comfort was increased as well by the stimulation of the respiration, the dyspnœa becoming much less marked. That the temperature may also fall after the use of heroine I demonstrated by a case in my first paper; similar observations were made by North, Medea, and others. In pulmonary phthisis, acute and chronic, heroine found its largest field for usefulness, and but few correspondents reported results which did not substantiate the contention that, taken all in all, heroine is distinctly superior to codeine in most cases, and to morphine in many. It fulfils more indications than either of them, since it does more than to simply allay the cough; it stimulates respiration, removes the oppressive sensation of dyspnœa, promotes sleep, frequently lessens or prevents night sweats, and even at times reduces the evening rises of temperature. Moreover, it is less constipating, and the tendency to habituation or increasing dose is far less than with all other opiates.

In pulmonary emphysema and bronchial asthma it may safely be asserted that heroine, and especially the hydrochloride, is distinctly superior to any other drug thus far used. This is proved by the results—fourteen failures in fifty-four cases—and still more emphatically is it demonstrated in the statement made by many of my correspondents. Leo has especially emphasised its usefulness in this condition, and, as already quoted, he aptly says that what digitalis does for the heart heroine does for respiration. During the attack of asthma the drug may be used freely, since the somnolence which follows the larger doses is gladly welcomed by the patients, and at the same time they frequently feel the coincident respiratory stimulation. Many observers are agreed that in some cases not only are the individual paroxysms shortened in duration, but the interval between the attacks is distinctly lengthened. I prefer to use the hydrochloride subcutaneously in a twelfth to a sixth of a grain, repeated in an hour, if necessary. After that, it or heroine may be given by mouth in smaller doses every four to six hours to insure sleep. The largest doses should be reserved for bedtime. In influenza, heroine, as was to be expected, was very valuable in allaying the respiratory symptoms.

Many correspondents report excellent results with it alone, or in combination with phenacetin, salipyrin, antipyrin, &c. It was also observed that the duration of the disease was shortened, and the complicating pneumonias were less frequent. Whooping-cough has been very favourably influenced by heroine. The doses are very well borne, and the paroxysms were shortened in twenty-five out of thirty-three cases.

Any drug which will add to one's resources in the distressing cases of cardiac and renal asthma is worthy of a trial, especially if the relief is obtained without any too great general depression. The few cases in which I have tried heroine have shown that, while heroine is distinctly inferior to morphine in these conditions, yet the soothing effects obtained were sufficient for mild attacks; and, moreover, the drug could be used in the same dose for a long time. Cardiac patients tolerated it very well. In a personal communication Dr. L. S. Rau told me of the excellent results which he obtained in cardiac asthma from a combination of heroine, strychnine, and powdered digitalis. That the effect was not due to the latter drugs was shown by the fact that it was only when heroine was added that his striking results were observed. Bloch also reports that he obtained good effects from the combination of infusion of digitalis and heroine hydrochloride in uncompensated cardiac lesions. In diabetes mellitus my results have not been satisfactory. These results do not agree with those of Tauszk, who states that it was useful in this disease. Eulenburg's statement of the great value of heroine in breaking off the morphine habit was substantiated in two cases. The results were most gratifying, and justify the belief that it is worthy of a more extended trial for this purpose.

As regards after-effects, the general conclusion is that they have occurred in a surprisingly small percentage of cases, when it is borne in mind that in so many instances the larger doses (a sixth of a grain) have been employed. Even the effects which have been recorded are only relatively simple, like those already mentioned above, and in no case was any serious effect noticed. These after-effects are decidedly of less frequent occurrence and of milder degree after heroine than those from morphine or codeine. As in every other morphine preparation, idiosyncrasies will be encountered, and the dose must be regulated according to the individual patient and to the effects which are desired in the particular condition under treatment. Heroine may safely be employed in all ages if the doses advised above are not exceeded. It is always wise to begin with the smaller doses, and to increase to the maximum, if necessary. Habituation has been noted in a small percentage (six to eight) of the cases.—*New York Medical Journal, January* 20, 1900.

20.—MERCURIC RESORBIN AS A SUBSTITUTE FOR UNG. HYDRARG.

By Dr. JAMES SILBERSTEIN.

[From Dr. Silberstein's report (*Wien. Med. Woch*, 1900, No. 8), from Professor Neumann's Clinic in Vienna.]

Recently, Dr. Ledermann, of Berlin, introduced into dermatological practice an ointment basis called Resorbin. It is prepared by the Actien-gesellschaft für Anilinfabrication, of Berlin, by making an emulsion of almond oil and wax with water, adding a small quantity of a solution of soap and glue, in which the fat globules are so finely divided that they can be easily absorbed by the skin. Resorbin has proved useful as a cooling ointment in all itching skin diseases (pruritus and prurigo), owing to its containing a large quantity of water, also owing to its penetrating power into the epidermis, for softening crusts in impetiginous exanthema, and in various forms of ichthyosis. It was natural, therefore, to think of combining this constituent with mercury for use in place of the grey ointment. We now offer a report of our experience with Mercuric Resorbin (Ung. Cinereum cum Resorbino parat.) in the clinic of Professor Neumann.

Mercuric Resorbin is of a leaden-greyish colour, and is a little lighter than the official Ung. Cinereum, although it contains as much mercury as the later (33⅓ per cent). Its odour is slightly aromatic, probably due to its containing almond oil. A microscopic examination shows that the mercurial globules are evenly distributed, their diameter varying from 2 to 4 μ. The ointment is very pliable, and can therefore be easily rubbed into the skin. Whilst it takes from twenty-five to thirty minutes to rub in the ordinary ointment, the process when using the new preparation shows that after eight minutes the ointment has completely disappeared without leaving any residue on the skin. The skin then shows a dull grey appearance, and is perfectly dry to the touch. On continued rubbing the colour becomes darker, by part of the mercury being pressed out again from the follicles. This reduction to one-third of the usual time necessary for carrying out inunction is one of the great advantages of Mercuric Resorbin, more especially in private treatment, where the patient has not always time or patience to exercise the necessary care, by which the value of inunction treatment is not only questioned, but may even turn out harmful to the patient. Mercuric Resorbin can be used with advantage, owing to this reduction of the time of inunction, in cases of anæmia, pregnant patients, and weakly persons. It should also be mentioned that the preparation does not soil the linen to such an extent as the grey ointment. Mercuric Resorbin is put up in graduated glass tubes containing 30 grammes. By means of a cork which forms the bottom of the tube, the contents are pressed out gramme by gramme, as indicated in the graduated scale. The remainder is protected from dirt. It is cheaper than the ordinary mercuric ointment. Few reports have yet been published regarding the results obtained by Resorbin treatment. Ledermann states:—"The action of Resorbin is at least equal to that of the grey ointment. In a large number of cases of various stages of syphilis rapid involution of the symptoms present took place. Relapses have of course occurred, but these can hardly be obviated with any other treatment. The exceedingly rapid absoption of the mercury may be gathered from the relatively frequent appearance of slight gingivitis, which necessitated temporary interruption of the treatment. This condition, which is rather in favour of the action of the ointment, can be removed or prevented by decreasing the dose."

Mercuric Resorbin was employed by us in many forms of syphilis. Unpleasant general or local symptoms have never been observed after its use, more especially any eczemas. The fact that gingivitis frequently appears, even although all prophylactic measures usual in the clinic was resorted to (frequent brushing of the teeth with tinct. gallæ, tinct. rhatany, partes equales, and gargling with pot. chlor.), cannot be confirmed, as this was only observed in one case out of seventeen. The duration of treatment was reduced to an average of 19 inunctions. In some cases the decrease of the symptoms was remarkably rapid, as, for instance, where sclerosis of the gums had skinned over as early as after 14 inunctions, and in place of the ulcerous margins only a slightly hard crust could be felt, and exanthema had completely disappeared. In one case patient was discharged as cured after 12, in four cases after 15 inunctions. Relapses did not take place, but, of course, the time of observation only lasted three months. Taking these results into consideration, we can state the following: Mercuric Resorbin has not failed in one of the cases treated. It possesses the following advantages over the grey ointment: it shortens and facilitates the process of inunction, enters better into the epidermis, has a pleasant odour, and shortens the time of treatment. It can, therefore, completely substitute the grey ointment in the treatment of syphilis.—*Taken from a report in The Therapist, April* 16, 1900.

DISEASES OF THE NERVOUS SYSTEM.

21.—INSOMNIA.

By Prof. H. OPPENHEIM, Berlin.

[The author (*Berl. Klin. Woch.*, No. 49, 1899) discusses some unusual cases of insomnia.]

Various types of insomnia exist requiring different methods of treatment. Thus, to the psychical or ideogenic type belong all cases in which mental worry and overstrain, violent emotions, morbid concepts, hallucinations and delusions, or other pathological mental states are the causes which prevent sleep. The insomnia of many lunatics and of patients suffering from grave hysteria and neurasthenia belongs to this category. Some patients suffer from interruptions of sleep owing to the appearance of certain "phobias" or terrifying and startling ideas which may occur while falling into sleep. Closely related to the psychical is that type in which a hyperæsthesia of the senses (hearing, tactile and cutaneous senses) interferes with sleep or renders it difficult. The second category includes types of insomnia due to pain (algogenic type). Apart from bodily pains of various sorts there may be disagreeable or irritating sensory disturbances which serve to promote insomnia—*e.g.*, pruritus, thermoparæsthesia, excessive flushings and feelings of heat, and tinnitus aurium. Gastro-intestinal disturbances (colic and enteritis) play an important part and cardiac and respiratory disturbances also act prejudicially in driving away sleep. There is also an insomnia of sexual origin arising from various conditions which may disturb or unduly stimulate the sexual life. At times sleep itself is a cause of troubles which interrupt and break it, thus dreams, night-terrors, and nightmares arise in the course of sleep, and when they have attained a sufficient intensity they produce wakefulness. Professor Oppenheim mentions two interesting cases, in one of which the patient, who was perfectly well in the waking state, was frequently awakened from sleep by the pain and discomfort of severe girdle-pains, while the other patient was subject to attacks of occipital neuralgia only during sleep. There are pains and disagreeable experiences which are intimately connected with sleep just as there are forms of epilepsy which only manifest themselves during sleep (nocturnal epilepsy). A case is also reported of a woman who had recovered from influenza with the following extraordinary result. As long as she was awake the heart's action and the respirations were normal, but as soon as she went to sleep they subsided to so slow and feeble a rate as practically to cease, and she was in danger of dying. This state of affairs was so alarming that she had to be constantly watched and kept by artificial means from falling into sleep until by the administration of drugs (bromides and nerve tonics) the condition eventually passed away. Another case is recorded of a married woman, aged 35 years, who one day unexpectedly received bad news. She became excited and agitated by this, and her sleep was disturbed by attacks of dyspnœa which came on at intervals of 15 to 30 minutes all through the night. During these attacks she would start up unconsciously, and on more than one occasion she sustained injuries by so doing. She was free from symptoms of hysteria. In about a minute after being thus awakened she would become conscious, and would be able to answer questions, and she could then go to sleep till interrupted again as before. Bromides were administered to this patient, and she eventually recovered. The great importance of treating or averting insomnia, and thereby of obviating threatened mental breakdown, is urged by Professor Oppenheim as chiefly needed in all cases with hereditary tendencies to mental disease.—*The Lancet*, *March* 31, 1900.

22.—THE TREATMENT OF DELIRIUM TREMENS.

[In an unsigned article in the *Journal of the American Medical Association*, a writer thus describes the symptomatic treatment.]

In delirium tremens, more than any other disease, it is necessary to remember that we "treat the patient and not the disease." There is in these cases loathing of food and drink, and at the same time expenditure of energy, factors which tend to cause the fatal result. Feeding is of the greatest importance, not only to prevent exhaustion and cardiac failure in the later stages of the disease, but also because the patient is usually in a half-starved condition, having as a rule taken little food for a considerable time before the onset of acute symptoms. The patient will usually take the following mixture: Tinct. capsici, ♏. xv, in a cupful of hot milk every three or four hours. This will "settle his stomach," acting as a local as well as general stimulant, and is all the nourishment necessary in most cases. If the patient refuses all food on account of his delusions, a nasal tube should be passed and fluid food introduced into the stomach at intervals of not more than three hours. If vomiting occurs, a mixture of equal parts of matzoon and seltzer is sometimes retained. Persistent vomiting is to be combated by ice, effervescing draughts, lime-water, and careful feeding in small quantities ; at the same time giving nutrient enemata. To control the delirium and terror of the patient, his excitement, restlessness and sleeplessness, the cautious administration of hypnotics appears certainly indicated. The following is beneficial : ℞. Chloralis ʒiv, Potassii brom. ʒiv, Tinct. hyoscyami ʒiv, Aquæ chloroformi, q. s., ad ℥iv. M. Sig. Dessert-spoonful every two hours until quiet or until three doses are given, then every four hours, as required.

In the prodromal stage, when the symptoms are slight but characteristic, the attack has apparently been aborted in numerous instances by the above treatment. If, after a fair trial, probably six or eight doses of this mixture, the patient has not obtained sleep, and the absorptive power of the stomach seems impaired, or if the delirium is violent, hypodermatic administration of hyoscin hydrobromate in doses of 1/100 gr. every hour for three doses may be employed. This rarely fails to quiet the patient and produce sleep. Should it fail, however, and the delirium be excessive, rapidly exhausting the patient's strength, ether anæsthesia is often efficacious. The proper restraint is very important. The best method is to place the patient in a cool, quiet, dark, well-padded room with a mattress on the floor and two strong nurses in constant attendance. Where this is impossible, mechanical restraint becomes necessary. Sheets tied across the bed are not efficient. The use of leather straps to wrists and ankles is far from being satisfactory, for the patient will often abrade his skin or even break bones and exhaust his strength in his attempts to free himself. In some cases this strapping appears to convert a mild attack into a severe and even fatal one. A wire cage, just large enough to cover the patient's body as he lies in bed, but too small to allow him any range of motion, is used at the Alexian Brothers' Hospital, in this city, and, it is claimed, with excellent success.

Throughout the treatment the heart must be carefully watched, and on sign of impending exhaustion, strychnine sulphate, 1/30 gr., hypodermically every four, or even two hours, should be given. Tincture digitalis in large doses is especially efficient in cases where the heart is weak and there is profuse perspiration. In sudden collapse, the administration of a hypodermic barrelful of aromatic spirits of ammonia, camphorated oil, or both, will be found useful. If there be a rise of temperature the cold bath will not only reduce the temperature, but also frequently allay the delirium. Should there, however, be any sign of heart failure, the bath should be preceded by stimulation. Apomorphin, hypodermically, in sufficiently large doses to produce vomiting, has again been recently recommended in medical journals as a specific, but the writer has tried it in several cases without any appreciable result.

The disease is self-limited; and, unless death or complications occur, amelioration of the symptoms may be looked for in from two to four days. When convalesence begins, attempts should be made to break the drink habit by moral suasion, the administration of nux vomica, capsicum, and the like, a diet consisting largely of fruit, and, if necessary, the committing of the patient to a retreat for the cure of drunkards, followed by a total change in his mode of life.—*Journal of the American Medical Association, February* 3, 1900.

23.—JUVENILE GENERAL PARALYSIS OF THE INSANE.

By F. W. Mott, M.D., F.R.C.P.

[Dr. Mott's paper appeared in the Archives from the Pathological Laboratory of the London County Asylums.]

The average age of fifty-eight cases collected from the literature by Thiry was fourteen years, while the average age in Mott's twenty-two cases was seventeen years; but the latter observer points out that the difference probably depends on the fact that Thiry's statistics were derived from recorded cases, and probably only instances of the disease occurring in the very young would be considered interesting enough to place on record, whereas Mott's statistics include all the cases that he has been able to find in the London County Asylums during the last three years. Thiry does not believe that this form of general paralysis habitually coincides with the development of puberty. Clouston and others regard the sexual crisis as an exciting cause, while Saiki states that, contrary to other diseases of youth which begin at the end of puberty, juvenile general paralysis generally begins at the commencement of puberty, neuropathic heredity and hereditary or acquired syphilis being, however, the true causes. In Dr. Mott's opinion there may be many exciting causes, but the predisposing cause is nearly always hereditary syphilis. The sexes are in reality equally affected, though some statistics dealing with too small a number of cases show a greater liability to attack in the female, who have, as a rule, been older on admission to the asylum and at death than have been the males, in whom, however, the disease appears to run a more rapid course. In females in whom the disease became manifest at or before puberty, menstruation either never became established or soon ceased, and there had been infantile development of the reproductive organs in cases beginning at this period of life. Masturbation is regarded as possibly in some measure as responsible for the more rapid progress of the disease in males. Some of the cases were able to follow an occupation for a time before the onset of the disease, others were prevented from so doing owing to congenital mental defect, or the early onset of the disease, while a few were above the average in intelligence prior to the manifestations of the malady. In regard to exciting causes, it is stated that several of the cases first manifested symptoms about the period of puberty, that in one case the puerperal condition and desertion were operative, while a fall was the possible exciting cause in another patient ; nevertheless, both patients had congenital syphilis. In several of the cases worry was the cause assigned, and in one masturbation.

Whilst hereditary insanity was traced in three of the cases, syphilis of the parent transmitted to the offspring in each instance is regarded as of far greater importance. In three other cases there was a history of direct insanity, and in three others the taint was in collaterals ; but in twelve of the patients there was no such taint. Dr. Mott accordingly differs from Thiry, who regards hereditary neuropathy as an important element in the generation of the malady. Infectious diseases such as measles, influenza, and scarlet fever may possibly predispose to the malady, but all the evidence points to syphilis as the cause which is responsible for the early degeneration of the nervous system. In none of the author's cases could syphilis be excluded ; thirteen of them showed signs of the malady on their bodies ; in four of the remaining eight the history was doubtful. How little weight can be attached to a negative parental history is, however, evidenced by the fact that several mothers who were interviewed gave no history of syphilis, and yet the signs of congenital syphilis were evident in their children. Thiry found syphilis in 64 per cent. of the cases he analysed, and there were only a few of his cases in which it could be excluded.

The shortest period that the disease lasted in the male was three months, and in the female six weeks ; death was, however, due to complications in the latter case. The longest duration was seven years in the male and a like period in the female. When the affection begins at an early age it appears to last longer, whereas beginning at or after twenty it rapidly progresses to a fatal issue. The course is, as a rule, more rapid in the male than in the female, and phthisis is a frequent complication in the latter.

In dealing with the symptomatology of juvenile general paralysis, the author states that the most notable difference observed in contrasting the symptomatology of these cases with the adult form is the mildness of the convulsions when any occur, and the infrequency of grandiose delusions. They, however, present the cardinal signs of the adult form ; progressive dementia, progressive paresis, affection of verbal and written speech, pupil phenomena, and altered knee-jerks.

Necropsies were performed in sixteen of the cases, in all of which the characteristic naked-eye lesions of general paralysis were found, while in eight cases in which microscopical examinations were made the changes found were essentially the same as those seen in the adult form of the disease. All of the cases examined showed atrophy of the brain, especially the frontal and central convolutions ; the pia-arachnoid was thickened, the ventricles were dilated and their ependyma granular. The microscope revealed atrophy of the tangential fibres, atrophy and disintegration of the neurons of the cortex, especially of the central and frontal convolutions, the occipital lobe being comparatively but slightly or little affected. A marked overgrowth of glia cells and a cellular proliferation around the vessels was usually found. In four of the cases examined there was syphilitic pericellular and perivascular fibrosis of the liver.—*Dr. Risien Russell's abstract in the Practitioner*, *January*, 1900.

24.—TREATMENT OF NEURASTHENIA.

By Dr. LANDON CARTER GRAY, New York;
and
By Dr. DORNBLÜGH, of Rostock.

[The following is taken from Dr. Gray's paper :]

(1) The cause should, of course, be removed or ameliorated, if this can be done without aggravation of the neurasthenia.

(2) Rest should be both mental and physical, and its degree must be proportioned to the needs of the individual, so that little is given in a very mild case, whilst a severe one has absolute repose in bed. It is seldom necessary to put patients to bed for three to six weeks, as was at first proposed. As a rule, it will suffice to keep them there ten or twelve hours out of the twenty-four, and to have them avoid fatigue when they are up.

(3) The drugs, including tonics to be used, will vary somewhat. If there is anæmia, iron should be employed. In some cases it

will even be well to combine sulphate of strychnine with the iron and quinine. With these tonics, in severe cases, must be given a large amount of beef, and, inasmuch as anæmics are, with a curious contrariety of nature, often extremely averse to taking it in the solid form, beef-tea should be employed.

If the patient is not anæmic, the tonics that should be used will depend largely on the degree of the neurasthenia and the idiosyncrasy of the patient. Usually, however, the best tonic in the non-anæmic cases is the sulphate of strychnine in beginning doses of 1/50 of a grain, three times a day, and increasing to 1/30 of a grain. But where the patients have been put to bed or made to rest a great deal it is better to reserve this until they are beginning to get about more, although in the case of business men who are simply made to expend less energy in their affairs, the drug should be employed from the first. In cases with a gouty history, the use of colchicum is necessary, and often will be surprisingly beneficial, either in the ordinary doses continued for several days, or, in slighter cases, 20 drops of the tincture of the root at bedtime. The treatment of the lithemic cases has been a grave puzzle from the fact that the pathology is so imperfectly understood. When there can be no doubt, however, that the seeming lithemic trouble does not arise from indigestion or constipation, the lithiated waters should, as a rule, be employed in abundance, or Vichy, or Giesshuebler, giving from four to six glasses of each in the twenty-four hours. Some have found the glycero-phosphate of lime, recently advocated in France, of great use in some of these cases given in doses of from 5 to 10 grains, three times a day. If any of the various forms of indigestion are associated they can usually be dealt with by the simple general plan of treatment of the neurasthenia, modified only to this degree, that the patient shall at the outset be put to bed absolutely for a month or six weeks, and that Mitchell's plan of beginning the dietetics with milk shall be adopted, viz., for the first twenty-four hours ℥ ii of milk every two hours, to be increased the second day to ℥ iv, and so on until two quarts are taken in the twenty-four hours, the following day a light breakfast should be added, the second day a light noon-day meal, the third, a light supper, so that at the end of two weeks the patient takes two quarts of milk and three full hearty meals in the twenty-four hours. With the simpler cases it will suffice to give the essence of pepsine, one teaspoonful immediately after meals, and a teaspoonful of the diastasic essence of pancreas one hour after; later it may be necessary to add a bitter tonic. Of course the treatment just outlined is adapted to the functional indigestions only, and great care must be taken to exclude any organic trouble. In neurasthenia there is no true insomnia requiring hypnotics, and when there is any symptom of this kind not to be overcome by the general treatment, the case is probably one of melancholia, as a careful analysis will show. Mental diversion is highly important, so far as it is otherwise consistent with the proper treatment of the case, but no more cruel mistake has ever been made in medicine than that of driving exhausted neurasthenics into amusements which they are not only too wretched to enjoy, but which actually aggravate their symptoms, for it should always be fully realised that fatigue must be avoided as if it were a poison.

(4) Electricity is of great value as a therapeutic measure, and the lack of success with it has often been due to lack of precision in the technique. To give a galvanic current through the brain, one electrode, measuring 5 × 2½ in., should be put on the forehead, another on the nape of the neck, measuring 7 × 2½ in., and held gently but firmly in place; then the current should be slowly turned on by the regulator until two milliampères are measured off on the meter, so gently that no flash of light will be perceived by the patient. The sitting should continue at first two minutes, and, later on, five, and then the current should be as gently withdrawn. For the spinal cord the electrode should be placed at the nape of the neck, as first described, and the other, measuring 6 × 4½ in., across the lower dorsal spine, skin and electrode being wet with warm water as before, and the current, first of five and then of ten milliampères, should be turned on gently, continued for five or ten minutes, and then as gently withdrawn. There is no tonic that will be as effective as this electrical treatment, properly and carefully given from day to day. In addition to this, general faradisation of the muscles of the body is of great use, but it is not necessary, and should be employed only with patients who are careless of expense and time.

Massage is often a great aid, but not always. There are some people whom it makes worse, and in the very severe cases it seems to retard recovery. There is a small minority, however, who are always helped by it. It should never be given for more than fifteen minutes at first, or at night until it has been ascertained that it does not produce insomnia, and frequently it will prove best to defer it until the patient is taken out of bed and craves exercise.—*Medical News*, *December* 16, 1899.

[From Dr. Dornblügh's paper:]

Dr. Dornblügh considers it of prime importance, before commencing the treatment, to come to a thorough understanding as to the patient's previous condition and ailments, as, frequently, these furnish more or less useful indications. A distinction must be made between the acute and chronic stages, but even in the latter an exacerbation of symptoms occasionally comes on that makes the case for the time much like one in an acute stage. In the acute stage the first requirement is rest, and rest in bed is the best. It is surprising how frequently all the symptoms, those connected with the stomach, the melancholy, giddiness, and oppression are removed by it alone. Such rest may be required for a period varying from eight days to six weeks. In milder cases it is sometimes difficult to command such rest in bed, but its usefulness is incontestable. When absolute rest in bed cannot be procured, the patient should be enjoined to lie down flat as often, and for as long a time as he or she can each day. For mental rest attention should not be given to business. Loneliness is, in the acute stage, very useful to the patient. The tendency to grumbling, which the patient thinks he ought to overcome as much as possible, gives way soonest of all to bodily rest in the sick room. A return to occupation should only be allowed after proper rest has been had, and the power of resistance has sufficiently returned.

Diet is of great importance; neurasthenics only require a normal diet. The author understands by this, five meals a day with intervals of two-and-a-half to three hours. He allows coffee and tea, and all not over indigestible articles of food, but unconditionally forbids all alcohol, as it always leaves a lassitude behind it and lowers the recuperative powers of the nervous system. In general, rest after a meal is good, but some patients seem to do better with conversation. A great part of the stomach troubles of neurasthenics are due to insufficient evacuation from the bowels, and disappear when a suitable diet has overcome the difficulty.

Hydro-therapeutics come next, and the author thinks that Preissnitz body wrappings, the half bath and cold wet smacking will suffice. As regards the Preissnitz, the linen cloth should be steeped in water the heat of the patient's room, well wrung out and wrapped round the body. The water used should not be warmer than stated, even if the patient expresses a wish to have it so. Over the linen cloth come wrappings of dry flannel, secured with safety pins or bandages. The Preissnitz envelope acts as a calmative, and at the same time a stimulant to the stomach and bowels. The half bath is an ordinary bath, only half filled covering the buttock and lower limbs only. The patient sits up, and the front and back are well douched by the attendants, the best temperature is 24 to 25 R. (73 F.), and the bath should last four minutes. The bath is best given soon after a light meal, and the patient should rest a quarter of an hour after it. In drying, rubbing should not be made use of, as only a calmative effect is desired.

The fourth part of the general treatment consists in general faradisation, a weak current being used preferably through the faradised hand. An indispensable part of the treatment lies in psychotherapeutics. Only the truth should be stated, and only what one knows. Any departure from this involves the possibility of contradiction and a shock to confidence. To these general regulations are now added those applicable to the particular case. A majority of neurasthenics suffer from imperfect constitution of the blood. Krewel's sanguinal pills and arsenic are distinctly useful. According to the case quinine or ext rhœi may be added to the pills. Arsenic the author generally prescribes in the form of the Asiatic pill, acid arsen. 0.1, pip. nig. 2.0, pulv. sig. 5.0, and mucilage to 90 pills, of which one is taken three times a day at meal time. After 8 to 10 days 5 to 6 pills may be taken ; this may be continued for about 3 weeks, when the 3 pills daily should be reverted to. It is occasionally useful to give larger quantities. In the chronic cases education to labour is of vast importance, especially in those of traumatic neurasthenia after recovery from the original inquiry, when compensation has been granted and there is a disposition to pass a sort of invalid existence.—*Abstract in Medical Press and Circular*, *February* 14, 1900.

25.—MINOR EPILEPSY.

By Sir WILLIAM GOWERS, M.D., F.R.C P., F.R.S.,
Physician to the National Hospital for the Paralysed and Epileptic.

[The following is taken from a part of the author's valuable paper :]

(1) *After-States.*—A very important relation of minor attacks is the peculiar condition in which they frequently leave the patient. Normal consciousness is often regained slowly. The patient for a minute or two is in a somewhat dazed condition ; he may fumble with his hands—or, if I may say so, fumble with his mind. One patient of mine invariably takes out his watch and says, " Oh, what is the time ? " A more common thing is to say, " Where am I ? " And when the recovery of consciousness is deliberate, action in some patients is of a more elaborate character than simple fumbling ; action performed automatically in a state of imperfect recognition of surroundings, as a result of some dominant idea, vague or precise. A very common thing is for the patient to begin to take off his clothes. Many and curious are the incidents which occur in this condition.

Some patients have a tendency to put into their pocket whatever is within reach of their hand ; and this automatic action may give rise to very inconvenient suspicions.

To pass to the other degree, the patient, instead of action of an elaborate character, may pass into a state of the most unelaborate action that can be conceived, namely, that of hysterical convulsion. It is extremely common for a patient after a minor attack to pass into a state of violent hysteroid convulsion, which usually only lasts for five or ten minutes, or, at most, a quarter of an hour. If you make inquiries in such a case you will find a history of the moment's initial stillness, and also a clear history of other minor attacks, apart from those with hysteroid disturbance. The patient has an epileptic "faint" from time to time, or an epileptic "sensation," and only some of these attacks are followed by the hysteroid symptoms. It is frequently said that a patient has had slight faints during childhood, and then at the time of puberty has become liable to severe fits ; but you will often find on inquiry that simple minor attacks occurred during childhood, and at puberty, when the peculiar hysteroid temperament became evolved, hysteroid convulsion was superadded to the minor seizure that the patient had had before—a post-epileptic disturbance, mistaken for severe epilepsy. The automatic action that I have alluded to as a more elaborate disturbance, having the same relation to the epileptic seizure, may assume the form of some act of violence. That is indeed the condition of epileptic mania.

Another accident which may follow a slight attack, as well as a severe one, is vomiting. It is not common after slight attacks, not so common as a sense of nausea. But actual vomiting does sometimes occur, although it is seldom dangerous in slight attacks, because the patient recovers consciousness first. In severe attacks it may involve grave risk to life, because the food brought up (if the patient be lying on the back) is apt to fall into the larynx, and in the state of unconsciousness may give rise to fatal asphyxia. Death from an epileptic fit occurring just after a meal is generally due to this mechanism. It is wise to impress on the friends of a patient who vomits soon after a fit the importance of laying him on his side or in a half-prone position. Another post-epileptic accident which occurs sometimes after slight attacks, as well as after severe ones, is turning on the face. After a severe attack the patient often turns so that the face is against the pillow. After a slight attack it is rather the result of a half hysterical automatic movement. But it is attended with danger of suffocation after slight attacks, as well as after severe ones, especially when they occur during sleep. It is not very rare for an epileptic patient to be found dead in bed with the mouth against the pillow. It is then certain that such post-epileptic asphyxia was the cause of death—the inference is equally sure in the case of persons not previously known to be subject to epilepsy, for nocturnal fits often occur for years undiscovered.

(2) *Diagnosis.*—The diagnosis of minor attacks depends upon the suddenness of their onset, their brief duration, and their occurrence apart from obvious exciting causes. The chief difficulty is often thought to be their distinction from syncope, but it is seldom considerable. Patients suffer from cardiac syncope only when there is some obtrusive cause : violent emotion, as at the sight of blood, or fatiguing exertion. In syncope the patient loses consciousness gradually, and recovers with the sense of physical faintness. In minor epileptic fits the patient loses consciousness quite suddenly, and recovers with a sense of mental confusion. The cardiac syncope is never preceded by any of the sensations which I have been describing, except that of nausea, and it is accompanied by failure of the pulse and initial pallor of the face, whereas in epilepsy the pulse is unchanged, and the pallor of the face only occurs as the attack is passing off. A much more difficult point in diagnosis is the distinction from some forms of vertigo, especially from forms of aural vertigo, in which an attack comes on, as it does sometimes, with great suddenness, accompanied with a distressing sensation in the head. There, however, we have always the evidence of prolonged continuous disturbance of the auditory nerve, persistent tinnitus, and some deafness ; the vertigo usually continues after the severe attack is over, and only gradually ceases. But remember that vertigo involves an impairment of the correct perception of the surroundings of the sufferer—that is, impairment of perfect consciousness. That is true of aural vertigo as well as of other forms, and in intense sudden aural vertigo this impairment may amount, in rare cases, to a moment's actual loss of consciousness ; so that, just as epileptic attacks may occur without loss of consciousness, so sudden attacks of simple vertigo may occur with loss of consciousness. Therefore, you must not rely absolutely upon such loss as a criterion of epilepsy, any more than of its absence as a proof that an attack is not epileptic.

I have already spoken of the combination of minor epilepsy with hysteroid symptoms, which is often perplexing and a fertile source of error, since the spasmodic hysterical disturbance is generally by far the most obtrusive.

(3) *Treatment.*—The treatment is much less easy than the treatment of the severe form. Bromide exerts an influence on minor epilepsy with much less constancy than it does on the severe attacks. It is common for a patient to have severe attacks entirely arrested by bromide, and for the minor attacks

to continue. This is not, however, always the case. Sometimes it stops the slight as well as the severe ones, and it may stop the attacks in a patient who has only the minor form. Unfortunately, we are not able to discern what will happen in any given case. When bromide fails zinc sometimes succeeds, and after trying various forms of zinc—citrate, lactic, sulphate—I think the oxide, on the whole, gives us as good a result as any, and is better borne ; although the dose that can be borne varies in different patients. Some patients are nauseated unbearably by three-grain dozes, while others will take 8 or 10 grains. Borax is less useful in minor epilepsy than in the inveterate cases of severe epilepsy, in which it is often of marked service, as I pointed out when I introduced it twenty years ago. In such it is often of marked service, either alone or in combination with bromide, though it very seldom arrests attacks altogether. In the case of minor epilepsy, among agents which are sometimes clearly successful—clearly so because cases in which there is no change in other elements of their condition have been benefited and even arrested—are nitroglycerine, given three times a day, and the hydrobromate of hyoscine, belladonna, and Indian hemp. Strychnine is occasionally of service, especially in combination with nitroglycerine. Perseverance in effort is, above all things, necessary to do good, and especially persistence in treatment for a long time after attacks have entirely ceased. When there have been some months of freedom, the temptation to omit the inconvenient dose is strong ; but it is then that the need for its continuance is greatest. The patient is then on the road to a cure, but the tendency to recurrence is then greatest, and even a single attack puts the patient again at the beginning of the long road. When the treatment is discontinued, it should always be by a gradual diminution, and not by sudden cessation. It is most important also to remember that patients who have previously had severe attacks are sure to have an early recurrence after discontinuance of treatment, if they still have an occasional distinct minor attack, however slight.—*British Medical Journal*, *January* 6, 1900.

26.—THE STIGMATA OF HYSTERIA.

By Dr. Byron Robinson.

[The author (*Western Medical Review*, December 15, 1899) describes these stigmata as follows :]

(1) Hyperæsthesia of the skin, which consists in exaltation of the sensory periphery. These areas, hystero-genetic zones,

are especially found on the skin of the abdomen. They are painful or over-sensitive to touch. The patient is often deceived by thinking that the pain in the skin of the groin refers to the ovary. Hystero-genetic zones, or hyperæsthetic areas, occur all over the body, but in the sexual region they are apt to be more typical on account of the patient's attention becoming directed to them. The skin over the kidney may be so hyperæsthetic and tender that grave kidney disease may be suspected. The skin over any abdominal viscus may be so tender that touching it induces the patient to scream, while the viscus itself is quite healthy. Hyperæsthesia exists chiefly on the right side; pinching or pricking the skin enables one to discern its zones. Hyperæsthesia of the skin on the abdomen may exist with or without healthy genitals. Of course it is more liable to exist with diseased genitals, as the genitals may be the debilitating agent inducing the hysteria. The hyperæsthesia of the skin may change its location. The frequency of skin hyperæsthesia in the clinic induces the author to believe in the wide distribution of hysteria independently of gynæcology.

(2) Anæsthesia of the skin is also another stigma of hysteria. This is not so frequent in the clinic. The patient complains of the skin being numb and without feeling. It is found perhaps more frequent on the skin of the abdomen. Anæsthesia exists chiefly on the left side of the body.

(3) Anæsthesia of the mucosa is one of the stigmata of hysteria seldom absent. The test is easily made by taking a pin with a small glass head and rubbing it over the eyeball. Rarely in hysteria does the rubbing of the pinhead on the eyeball produce reflexes, tears, or pain. Of course there are many grades of anæsthesia of the conjuctiva bulbi. Corneal anæsthesia is the least frequent. Anæsthesia of the throat is tested by a lead pencil or sound. On rubbing the mucosa of the throat no reflexes or pain arise. As Windscheid remarks, however, the diagnosis of hysteria should not be made from anæsthesia of the throat alone, as in healthy subjects the mucosa of the throat may show various degrees of anæsthesia.

(4) Hyperæsthesia of the mucosa must be remembered among the stigmata of hysteria, though it is infrequent. The persistent feeling of animals crawling in the tractus intestinalis is no doubt a symptom of overtender mucous membrane. The sudden expulsion of unchanged foods from some stomachs immediately after eating is no doubt due to hyperæsthesia of the gastric mucosa.

(5) Hyperæsthesia of the viscera is one of the known stigmata of hysteria. Perhaps visceral hyperæsthesia exists most frequently in the ovary. In such cases the ovary is hypersensitive to touch, yet normal in size and position, perfectly

mobile, with no peritoneal adhesions or fever. Castration does not affect the pain, unless to exacerbate it. Hyperæsthesia of the chord and testicle frequently exists. Vaginismus is perhaps as typically hysterical as any example of the viscera. It is chiefly of psychical origin and occurs in neuropathic individuals. There can be little doubt that hysteric bladders frequently arise in practice.

(6) The muscular stigmata of hysteria are quite common, and consist of paresis or paralysis or of exaggerated contraction of one or more muscles.

(7) Exaltation of special senses.

Hereditary or congenital defect is a large factor. Whatever debilitates the nervous system, local or general, invites hysteria as a provocative agent. It should be remembered that genital disease of infectious nature is debilitating, and hence is followed frequently by hysteria. Sexual disease in man or woman no doubt plays a vast rôle therein. Of special interest are the hyperæsthetic zones of the abdomen—*i.e.*, the periphery of its sensory nerves. Hysterical pain is the irritation caused by disturbances in the cerebro-spinal system. This pain is limited to no organ or nerve zone. It exists perhaps equally among men, women, and children. Hysteria has no more to do with the uterus than with the liver or testicle. It is not a gynæcologic disease. It exists independently of nerve distribution. It is not influenced by rest and scarcely perhaps drugs. The fundamental cause of hysteria is heredity, the transmission of defects or of a neuropathic condition. The provocative agent of hysteria is some debilitating effect, mental or physical. The two chief therapeutic agents for hysteria are (*a*) suggestion and (*b*) limited galvanic electricity. Hyperæsthesia may perhaps exist in any viscus, and the typical characteristic of hysteria being hyperæsthesia of the abdominal skin, may be one of its common attributes which could be found anywhere on the skin if sought. When a rational treatment is systematically carried on against a painful local disturbance without effect, the probability is that it is an hysteric hyperæsthesia. The excessive vomiting of pregnancy often has an hysteric base—hyperæsthesia of the gastric mucosa. In the same hysterical category must often be numbered coccygodynia, coxalgia, irritable bladder, breast, and uterus, vaginismus, pruritus, dysmenorrhœa, and lumbo-sacral symptoms. A knowledge of the above factors is particularly valuable to the operator, as the sweeping removal of organs for neurosis or hyperæsthesia is criminal.—*New York Medical Journal*, *January* 13, 1900.

27.—POST-EPILEPTIC HEMIPLEGIA OF SHORT DURATION.

By Wm. Gibb Dun, M.D.,
Assistant Physician, Western Infirmary.

Well-marked hemiplegia, lasting for hours, or days, and coming on after a pronounced epileptic fit, is not of uncommon occurrence, and was described by Todd in his Clinical Lectures, in 1854, as "epileptic hemiplegia." He narrates several cases, in all of which epileptic seizures were of the more severe type, and the paralysis well marked and of some duration, except in one instance where it disappeared in from fifteen to twenty minutes. Todd summarises his description of epileptic hemiplegia thus :—"A patient has a fit, distinctly of the epileptic kind ; he comes out of it paralysed in one half of the body ; generally that side is paralysed which has been more convulsed than the other, or which has been alone convulsed ; but the paralysis may occur where both sides have been convulsed equally. The paralytic state remains for a longer or shorter time, varying, perhaps, from a few minutes, or a few hours, to three or four days, or even much longer. It goes off, or improves, until the next epileptic fit, when a train of phenomena, precisely similar, recurs with like result."

Epileptic seizures, which are followed by paralysis may, however, be of the slightest kind, "especially," as Gowers observes, "those in which the first (and sometimes the sole) discharge is sensory." Recently a case came under my observation in which the symptoms of "fit" were so slight as almost to escape observation. The case seems to me worthy of record, particularly because of the extreme brevity of the paralysis, lasting only for a few minutes, and occurring in a person apparently the subject of epileptic symptoms of the very slightest description. The patient was a healthy-looking man of about 40 years. While seated at breakfast one morning, in the act of taking porridge, his wife noticed that he let fall the cup of milk which he was holding with his left hand. She filled the cup again, and again he let it fall. It was then noticed that his left cheek was much twisted, and he was unable to articulate. He was assisted to another room, not being able to walk alone. Evidently there was paralysis of the left arm and leg, of the face (on the right side), and of the tongue. No sooner had he been removed to the room than he said, "I am better," while only a few minutes before he could not utter an articulate sound. The paralysis of the arm, leg, and face had also disappeared, and about half an hour after he left for his work. When I saw him in the evening he complained only of headache, and there were no symptoms whatever of paralysis. The urine, when examined, was found to be non-albuminous. I learned from him that for some months he had been subject to momentary attacks of giddiness, but had never fallen or lost consciousness. The attacks of giddiness recurred at intervals of about a month. There was no aura. I take it that these attacks were epileptic, and to be classed as *petit mal*. It is of great importance that the true nature of transient attacks of hemiplegia, such as I have described, should be rightly recognised, both that proper treatment may be adopted, and also that patients and friends may not be alarmed by the erroneous diagnosis of serious cerebral disease.—*Glasgow Medical Journal*, *December*, 1899.

28.—TABES DORSALIS.

By CHARLES L. DANA, M.D., New York.

[In his article on tabes, Dr. Dana thus speaks of the unusual modes of onset of this disease.]

In about ten per cent. of cases tabes dorsalis has an anomalous beginning. The anomalies are due to the fact that the disease is very slow in onset or attacks some unusual segment of the cord. Some of those types are very puzzling and interesting.

Rectal crises.—Tabes may, for example, begin with rectal neuralgias and paræsthesias. The patients suffer excruciatingly, and it is usually and naturally supposed that they have fissures, hæmorrhoids, or some other local trouble. Very likely some such trouble is present. I have had patients who have had severe operations done on the rectum by surgeons, and, I will add, sometimes with partial relief. At this stage the patient does not always present any other cardinal symptoms, though I believe a very close examination would show the real trouble, for either the pupillary symptom, the lost knee jerk, the slight ataxia, sexual weakness, or luetic history is present.

Neuralgic crises.—A most puzzling type of cases is the neuralgic. I have had a patient who had lightning pains for fifteen years, and no other tabetic symptoms, except an early ocular palsy, and later a loss of knee jerk; then some ataxia and vesical weakness came on. Another patient was treated for malarial and gouty and rectal neuralgias for four years. When seen by me he had normal pupils, no ataxia, normal reflexes, and absolutely no tabetic symptoms; yet a year later some began to develop. It is indeed not very rare that a diagnosis must be made on the pains alone. There is no other malady that gives such extensive, severe, and intractable pain without objective symptoms.

Gastric crises.—Another mode of onset that may obscure the malady is by gastric crises. A patient under my care was treated for two years for dyspepsia and dilated stomach. He had violent attacks of gastric pain with vomiting, and would be for a week or more unable to retain any but the simplest food. He was washed out, dieted, peptonised, and finally given the morphine habit. He had, when brought to my attention, a distinct band of anæsthesia around the waist, and later he showed Argyll-Robertson pupil, loss of knee jerk, and ataxia. These forms of stomach trouble can usually be recognised by the violence of the pains, the absence of evidence of gastric inflammation, ulcer, tumour, or local irritation, the sudden unaccountable onset, and the presence usually of some cardinal symptom of tabes, if it is looked for carefully. The crises last usually several days, and suddenly disappear, the patient feeling at once hungry.

Arthropatic type.—Occasionally tabes begins with, or is noticed first in consequence of, a sudden painless swelling of the knee or ankle, or an unaccountably easy fracture of a long bone. Such accidents occurring in syphilitics must be carefully examined ; their past history, the evidence of bony involvement, the subluxations, the absence of pain comparable to the lesion, and the obstinacy are the factors that are suspicious.

Optic type.—Sometimes tabes begin with a slow progressive atrophy of the optic nerve without preceding neuritis. These patients usually show later a loss of knee jerk and a little ataxia; occasionally a few pains. Otherwise their symptoms are slight, and the eventual blindness seems practically to stop the course of the disease.

Syphilitic type.—Not infrequently tabes is complicated with manifestations of secondary syphilis. This is shown by headaches, cranial nerve palsies, cerebral thrombosis or hemorrhage, and meningo-myelitis with paraplegia. We must bear in mind when nervous syphilis is found that it may pass into tabes or paresis. I cannot, however, undertake to discuss this very fertile field. Exudative or secondary syphilis I believe to be an entirely different thing from tabes, though rather often associated with it. By proper treatment the syphilis can be relieved; then the patient may go on developing tabes or paresis, or get well.

Laryngeal crises.—Laryngeal crises may be early symptoms, but they are certainly very rare. In the mild cases the patient has a feeling of tickling and choking in the throat, followed by spasmodic coughing like that of whooping-cough. In severer cases there is a feeling of suffocation and dyspnœa, followed by loss of consciousness ; the face becomes cyanosed, the patient falls to the ground, and may have an epileptic convulsion. The trouble can be surely recognised only by the finding of some stigma of tabes.—*Medical Record*, *November* 18, 1899.

29.—THE PALLIATIVE TREATMENT OF PARALYSIS AGITANS.

By R. T. WILLIAMSON, M.D. LOND., M.R.C.P.,
Physician to the Ancoats Hospital, Manchester, and Assistant Lecturer in Medicine, Owens College.

[The following is taken from Dr. Williamson's paper.]

I. *General Treatment.*—Indications for the general treatment may be obtained by observing what conditions increase the tremor and restlessness. Mental excitement, the visits of many friends, mental worry and anxiety, all increase the tremor markedly; and hence it is of importance that the patient should lead a quiet life, and should be spared from mental excitement and worry as much as possible. It is often noted that the tremor diminishes markedly when the patient is reading an interesting book, or when engaged in sewing or needlework (in the case of female patients). Hence it is well to advise the patient to occupy much of his or her time as indicated, or in some other similar way. Curiously, females who suffer from the disease are often able to sew and do needlework, the tremor diminishing at such times during the handling of the needle. At an advanced stage, however, needlework becomes difficult. By a mental effort the patient can usually check the tremor of the hands for a minute or two, or he can cause the tremor to cease by firmly grasping some adjacent object, as the arm of his chair. When the tremor is particularly troublesome, if the patient causes it to cease for a minute or two by voluntary effort, in the way mentioned, very often after this temporary arrest it diminishes in severity. Some patients find that they can check the tremor for a short time by placing the hands on the sides (just above the iliac crest, the fingers being directed forwards and the thumb backwards). In some cases it is found that the tremor can be arrested for a short time if a friend seizes the arms and holds them vertically above the head. These means of temporarily arresting the tremor are of service at those times when it has become especially troublesome. At such time I have known a warm bath also to cause a great diminution of the tremor for several hours.

Wine or alcoholic drinks, taken with the meals or during the day, cause the tremor to increase; and strong tea and coffee have the same effect. Hence the patient should abstain from alcoholic beverages, or only take very small quantities, and the tea and coffee taken should be very weak. The patient's room should be well ventilated, and should not be too warm; a warm stuffy room makes the tremor and general restlessness much worse. When in the open air, the patient usually feels much better ; the tremor is less, and the general restlessness and feeling of uneasiness, which are often such a source of misery, are especially diminished. This is a point which does not appear to have attracted much attention, but from my own observations, and from the statements of patients, I believe that one of the best means of relieving the distressing uncomfortable sensations and the restlessness of the muscles, which cause the patient to require to change his position so frequently, is life in the open air. During a railway journey, or a drive in a carriage, the trembling is diminished or entirely checked. There is one other point of importance in the general treatment. When the disease is advanced the patient has great difficulty in walking without assistance. He is in danger of falling, and if he should fall he is unable to get up again. Hence it is important that the patient should not be allowed to go about alone when walking has become difficult.

II. *Treatment by Drugs.*—The only drug I have found of real service is hydrobromate of hyoscine, which was recommended by Professor Erb, of Heidelberg, some years ago. It has also been recommended by a number of writers since ; but others have obtained no results, and in some of the best recent accounts of paralysis agitans in English literature no mention of the use of hyoscine is made. At first I gave from 1/200 to 1/150 of a grain of hyoscine of hydrobromate in pill form, but without result. At a later date I gave larger doses in solution in chloroform water, and found it of distinct service. I think it is very important to be very cautious as regards the dose, and not to begin with more than 1/150 or 1/100 of a grain (by mouth). In small doses I have not found it of any service, but when increased to 1/75 of a grain in ʒij of chloroform water (by mouth), good results have followed. I think it is also important to always use one preparation of hyoscine, as it is quite possible that different preparations vary somewhat in strength. I have always used Merck's hyoscine hydrobromate, obtained directly from Darmstadt, and have found it very satisfactory. I have given 1/75 of a grain two or three times a day (by *mouth*) for long periods, without noting any bad effects, but it is always well to watch for toxic symptoms, and its effect is probably not the same in all cases. Hyoscine not only diminishes the severity of the constant tremor, but it renders the patient more comfortable ; it diminishes the general restlessness and uneasiness, and the constant desire to change the position, which is such a troublesome symptom of the disease.

In paralysis agitans the patient often suffers from sleeplessness. When the patient has a sleepless night, next day the tremor and subjective symptoms are much worse. Hence it is important to secure a good night's rest, if possible. For the sleeplessness a little whisky and water may be taken at bedtime; or sulphonal may be employed. But hyoscine is of great service for this condition also. When sleeplessness has been very obstinate, I have given a larger dose of hyoscine (by mouth) at night with advantage, and a smaller dose twice during the day. There is another little point of some importance—the bed should not be too soft. A patient suffering from paralysis agitans at an advanced stage has great difficulty in turning over in bed when the position is not quite comfortable, and this difficulty, which leads to sleeplessness, is increased if the bed be too soft.

Though we are unable to do anything to cure or arrest the disease, still by the palliative measures described—especially by life in the open air, and by hyoscine—the patient's condition may be rendered much more comfortable.—*Practitioner*, *April*, 1900.

30.—PERIPHERAL NEURITIS FOLLOWING CHOREA TREATED WITH ARSENIC.

By T. C. Railton, M.D., M.R.C.P. Lond.,

Physician to the Manchester Clinical Hospital for Women and Children.

[From Dr. Railton's paper :]

For a considerable number of years we have been in the habit of treating cases of chorea at the Manchester Clinical Hospital with arsenic in preference to any other remedy, unless for some reason or other it has been contra-indicated, and our experience coincides with that of many observers, that not only does this drug shorten the duration of the attack more effectively than any other, but in the great majority of cases its administration is followed by no evil result even when full doses are employed, the young bearing the drug quite as well as adults. Exceptions however occur, as this paper will show, which render it necessary to exercise caution in its use. Occasionally we find children with whom arsenic will not agree at all, and in whom small doses of Fowler's solution quickly cause irritation of the stomach, shown by a foul breath and thickly-coated tongue, with vomiting and perhaps diarrhœa.

Bronzing of the skin, a symptom not uncommon in adults taking arsenic, is not very frequently met with in children, probably because they usually require it for a shorter time than older patients; but I have seen several cases of moderate pigmentation, and well-marked examples have been recorded by Drs. Cheadle, Owen, and others. Symptoms presumably dependent upon implication of the peripheral nerves, such as changes in the texture of the skin, erythematous or vesicular rashes, and most important of all, atrophic paralysis, are still less common and should perhaps be considered as due to some special susceptibility on the part of the child. The skin may become roughened so that it feels like sandpaper, or it may peel as though following an attack of scarlet fever. At other times a naturally rough skin becomes as smooth as satin and presents a striking resemblance to the skin sometimes seen in alcoholic neuritis or to the more localised change following traumatic injury to nerves. Vesicular eruptions may occur in the form of herpes zoster, and cases from this cause have been frequently reported. The œdema of the eyelids, red eyes and pricking of the conjunctiva, symptoms not very unusual in adults taking arsenic, are as a rule conspicuous by their absence in children.

I have examined the notes taken of 312 cases of chorea treated within the hospital during the past ten years. In most of these arsenic has been the remedy employed, either during the whole course of the treatment or after the failure of other measures. In comparatively few instances has the arsenic had to be stopped before a cure has been accomplished, in such circumstances the usual signal for its discontinuance being the onset of vomiting. Three cases of peripheral neuritis following the treatment with arsenic are to be found amongst the above-mentioned notes. To be strictly correct there were four, but one was so exceedingly slight and transitory that it need not be considered here.

[The details of the four cases are omitted here. They occurred in children aged 12, 11, 10, and 10 respectively.]

These four cases all made a good recovery, but the convalescence was somewhat prolonged. In none was paralysis of the diaphragm threatened. It must be remembered, in judging these cases, that many other children in the hospital during the period mentioned have had equal and even greater aggregate quantities of arsenic administered to them for chorea with the greatest benefit, none of them showing any toxic symptoms from its use. About the year 1873 the late Mr. Ralph Linton, of Chester-le-Street, attained a great reputation from his success in curing chorea. He was in the habit of giving a twelve ounce bottle containing twenty-four doses (sometimes of fifteen and sometimes twenty drops) of Fowler's solution in water. These doses amounted to an aggregate quantity of three grains or four grains and one-fifth of arsenious acid administered in the course of eight days, yet I am not aware of any instance being reported of peripheral neuritis following his treatment. The first of the four cases shows that an aggregate quantity of 6.3 grains is sufficient to produce peripheral neuritis even when distributed over a period of three weeks. It is well known that arsenic takes a very long time to leave the system and probably it does not matter very much, so far as the subsequent neuritis is concerned, whether the doses are spread over weeks or concentrated into the short space of eight days, as in Mr. Linton's method, although a gradual increase in the dose has the advantage of securing a greater toleration on the part of the stomach. The chief lesson to be learned from these cases is that there is a risk of disastrous results following the treatment of chorea with arsenic, if that remedy is given in doses which amount in the aggregate to as much as six grains of arsenious acid. These results may give no warning whatever of their approach during the administration of the drug, but make their appearance afterwards, with an interval varying from a week to a fortnight subsequent to its discontinuance. It is thus impossible to tell in any given case whether the treatment is going to be followed by toxic neuritis or not. The long period involved in the development of the symptoms, their subsequent decline, and the attendant discomforts, render this accident one to be intensely regretted, although I have not seen any symptom occur during the neuritis which threatened life, the paralysis never extending beyond the limbs. From the foregoing experience I would strongly urge that no aggregate dose amounting to more than four grains of arsenious acid be administered to a child during an attack of chorea.—*Medical Chronicle*, *February*, 1900.

31.—THE CLINICAL FEATURES OF BERI-BERI.

By Conolly Norman, F.R.C.P. I.,

Medical Superintendent, Richmond District Asylum, Dublin.

[Dr. Norman thus summarises the clinical features of this disease :]

It may be well to summarise the clinical appearances and briefly refer to the general course of the cases. The affection occurred principally among the insane, solely among them at first. In the sane, weariness in the legs with occasional cramps and breathlessness on slight exertion, often preceded more definite signs for some time. Sometimes a smart rise of temperature ushered in the earlier symptoms, but this was by no means invariable, and in any case soon subsided. The disease, once started, was extremely variable in course. Some cases never passed beyond the mildest type of the abortive form (rudimentary form of Scheube). In such cases there was often nothing more than disinclination for walking, with weariness on slight exertion, slight and often transient œdema in the pretibial region, tenderness of calf muscles, with impairment of cutaneous sensation in the leg (not always to be confirmed in the insane), and some degree of tachycardia. Occasionally in such cases the degree of cardiac trouble was much in excess of the other morbid conditions, and some patients whose illness seemed trifling died suddenly. This occurred specially in the old, and in persons who had been debilitated by previous illnesses. Sometimes the course which the case ran was pretty uniform, more frequently it was very irregular. Cases which had begun mildly and had progressed favourably, often apparently merely showing the rudimentary type of the disease, suddenly became unfavourable and rapidly developed the worst symptoms. We had frequently the same experiences elsewhere described by those who have to deal with the beri-beri—sudden changes for the worse in cases seemingly doing well ; great frequency of relapse ; occasional sudden death occurring when convalescence was believed to be progressing favourably. The duration of the disease was entirely uncertain.

On the whole, the severer forms seemed to tend to terminate more quickly, whether by recovery or death, than the milder. In cases which did not maintain throughout the rudimentary type, or in such cases when they relapsed, or in cases beginning acutely, there was a general tendency for the œdema, at first only perceptible along the front of the shin, or in a few isolated places to spread, sometimes with great rapidity, while diminution of sensation and loss of power spread or increased concurrently. Then the dropsy abated, leaving the patient still paralysed and extremely wasted. In favourable cases paralysis and anæsthesia then gradually passed off. Alarm and distress often arose from the condition of the heart, and this organ was, as has been said, often affected disproportionately to the other symptoms. Some patients becoming more and more waterlogged, or some in whom anasarca was not extreme, showed often quite suddenly extreme dyspnœa with inability to lie down, became dusky or leaden or cyanosed, exhibited violently throbbing carotids and a dilated heart, whose pulsations shook the whole chest, while a flickering pulse was hardly perceptible at the wrist. A sensation of suffocation, an intolerable feeling of oppression about the heart, gave rise to intense suffering. This condition, as has been said, sometimes set in with fulminating rapidity. It was usually ushered in by vomiting, a circumstance which has made the latter symptom of such bad omen in beri-beri. The Japanese know this state under the name of "Shiyo-shin," and say that it is never recovered from. The condition is obviously due principally to the failure of a weakened and probably degenerated heart to carry out the extra work thrown upon it. This is accentuated in some cases by effusion into the pericardium, by œdema of the lungs, and by impairment of the diaphragm and other respiratory muscles. Exclusive of Shiyo-shin, death often appeared to be due to œdema of the lungs. Hydropleura and hydropericardium were at least contributing agents in some of our cases. Paralysis of the respiratory muscles, particularly the diaphragm, was sometimes responsible for death. Some patients seemed to die slowly of mere general exhaustion, but in these fatty degeneration of heart muscle was usually found. Some beri-beri patients readily succumbed to intercurrent affections In the epidemic of 1894, quite a disproportionate number of epileptic lunatics were attacked by beri-beri. This at the time I inclined to attribute to certain special unfavourable conditions existing in the epileptic wards (particularly overcrowding, &c.), but in this I was wrong, as I now believe, for the special tendency of beri-beri to attack epileptic patients has since then been noted elsewhere (Tuscaloosa and Sainte-Gemmes). Epileptic sufferers very often died in the status or immediately after a fit. Considering the strain which epileptic seizures throw upon the heart, one cannot wonder at this. Sudden death from syncope occurred in some cases, and occasionally in cases of patients who were apparently progressing to a favourable convalescence. In one such case little could be found in the heart muscle to account for the occurrence of death.

The great danger always present in beri-beri is sudden heart failure. Now how this comes about is, I think, intelligible enough if we consider the other symptoms in connection with their recognised cause. In beri-beri we find degeneration of the peripheral nerves, and we find losses of power and of sensation which we can quite definitely associate with such degeneration. Some of these latter symptoms (anæsthesia, &c.) come and go with remarkable rapidity. They disappear with such suddenness in some cases that we can scarcely suppose an alteration could be detected in the nerves engaged. But if the nerve involved, instead of subserving the function of sensation in the skin of the leg or the integument round the mouth, had to do with the movements of the heart or with its nutrition, as is the case with the pneumo-gastric nerve, it is evident that the gravest consequences might follow from what elsewhere would be a mere temporary derangement of function.—*Dublin Journal of Medical Science*, *January*, 1900.

DISEASES OF THE ORGANS OF CIRCULATION.

32.—ACUTE ENDOCARDITIS.

1. *Due to the influenza bacillus.*—The number of organisms held to be responsible for endocarditic conditions increases as time passes, and there is nothing inherently improbable in the production of an apparently similar inflammatory condition in the heart valves, or elsewhere, by widely different organisms. To the staphylococci and streptococci, which are still most frequently found, have to be added the pneumococci, the gonococci, the typhoid, tubercle, anthrax bacilli, and now apparently also the influenza bacillus. The pyogenic and even necrotic power possessed by the last-named has been not infrequently demonstrated in the lungs, and we are thus the more ready to accept that it can exert a similar power upon the heart valves. Endocarditis, indeed, ought not to be looked upon as a specific disease. It is but one of the local manifestations of some more general disease, sometimes very severe, and sometimes so slight as to escape notice. In itself it is of but little importance, except in so far as it leads to interference with the equilibrium of the heart's mechanism. In the simple warty form this comes in time to be all-important, except when emboli follow, the general mischief being slight, or apparently having long since disappeared, whereas in the so-called ulcerative form the general mischief remains, and continues to be the all-important factor. In valuable articles on the influenza heart by Saundby and others, references to the general effects of the poison on the heart have been made, but Austin has brought forward three cases (*Johns Hopkins Hosp. Bull.*, Baltimore, 1899, p. 194) in which endocarditis was present, and in which the influenza bacillus was found in the vegetations. All three cases showed a recent acute endocarditis (in two of them ulcerative), superimposed upon an old chronic valvular mischief. The influenza bacillus, free and within leucocytes, was found both in cover-glass preparations and in sections made from the vegetations. Attempts to cultivate the organism artificially failed, as they so often have in cases of bacteria found in vegetations, but otherwise it presented all the morphological and staining reactions characteristic of the influenza bacillus.

2. *Due to a new organism, Micrococcus zymogenes.*—At p. 46 of the same bulletin, a preliminary communication of a case of acute endocarditis, due to a new organism, was given by

M'Callum and Hastings. They have now (*Journ. Exper. Med.*, N. Y., 1899, vol. iv. p. 521) given a much more complete account of this case, with a description of the morphological and biological characters of a new organism, which they have named *Micrococcus zymogenes*, and which they regard as the cause of the endocarditis. This lesion was acute in character, and involved both the aortic and the mitral valves, and there were also infarctions in the spleen and kidneys. The specific micrococcus was isolated in pure culture from the blood during life on two occasions, once nine days, and the other time three days, before death; and was further demonstrated after death, both microscopically and in pure culture, in the valvular vegetations, the infarctions, and other parts. No other species of micro-organism was found. It is very small, occurs mainly in pairs, sometimes in short chains, stains by Gram's method, grows in small, pale, greyish white colonies on gelatine and agar, at first clouds bouillon, which then becomes clear with a whitish sediment, does not produce gas in glucose media, liquefies gelatine slowly, and acidifies, coagulates, and subsequently liquefies milk. The behaviour in regard to milk is especially characteristic. It produces milk-curdling ferment, and also a proteolytic ferment. It remains viable for months, and has considerable powers of resistance to heat and antiseptics. It is pathogenic for mice, rabbits, and some dogs. In a footnote the authors add that Dr. Harris, in the Pathological Laboratory of the Johns Hopkins University and Hospital, isolated in May, 1898, from material removed from an old cesspool in Baltimore, which had not been evacuated for twenty-two years, a micrococcus which so closely resembled theirs in morphological and structural characters, that they were inclined to regard it as the same, though they had not been able to test its pathogenic properties.—*From Dr. Leith's periscope in the Edinburgh Medical Journal, March*, 1900.

33.—ON SOME CARDIAC AFFECTIONS DUE TO INFLUENZA.

By J. L. Bunch, D.Sc., M.D.,
Assistant Physician to the German Hospital.

[From Dr. Bunch's paper:]

Many cases show increased frequency of cardiac rhythm, which may be merely proportionate to the rise of temperature, and again disappear when the temperature falls, or there may be increased frequency persisting for some time as a sequela, and often of a paroxysmal character. The intervals between the attacks may be of varying length, and the attacks themselves more easily induced under certain circumstances. Discomfort is not, as a rule, felt by those patients in whom the heart-rate is continuously rapid, but it precedes or accompanies the commencement of an attack in the paroxysmal cases. As a sequela of influenza there may also occur the so-called "irritable heart" of Da Costa, more especially in young male adults who have engaged in athletics or excessive muscular exertion within a short period after an attack of influenza. Pulsus bigeminus, or the coupling of cardiac beats in pairs, has only once come under my observation as a sequela of influenza.

Arrhythmia—intermittence and irregularity of the pulse—as a sequela of influenza occurs more frequently in elderly patients. Even when the irregularity is not very marked, the prognosis is usually more unfavourable than when the pulse is merely intermittent, since it tends to be associated in many cases with degeneration of the muscular wall of the heart, even when no physical signs can be detected with the stethoscope or by percussion. Intermittence of an occasional beat, especially in old people, whether occurring after influenza or from other causes, is not necessarily of serious importance, though it frequently persists for a long time and even during life. The question as to how far myocarditis and degeneration of the cardiac walls can be due to influenza has not yet been satisfactorily settled. In influenza acute cardiac dilatation is not very infrequent; the patient may never have had any previous heart trouble, or complained of any cardiac symptoms before the final influenza attack. Associated with the malaise which is usually complained of, the patient is more or less suddenly troubled with "shortness of breath," and, indeed, this symptom may at first be the only reason for his coming under medical observation. He finds that the slightest exertion causes him to be out of breath; he cannot even go up a few stairs without discomfort, and at night he prefers to have his head propped up with pillows, and complains of a feeling of suffocation if his head is low. Associated with this there may be discomfort in the præcordial area, but scarcely any pain. On examination the pulse is found to be a little rapid, perhaps, and there may be some irregularity, but the tension is, as a rule, lower than normal. There is often some blueness of the lips, there is epigastric pulsation, and enlargement of the heart to the right. The point of maximum cardiac impulse is displaced outwards, without any displacement downwards, but no thrill and no murmur can, as a rule, be heard. It is conceivable that the right-sided dilatation may in some cases be sufficiently great to cause tricuspid regurgitation, with murmur and filling of the veins of the neck from below; but even apart from this the obstruction to the pulmonary circulation is considerable, and may well account for the dyspnœa which is so marked a symptom of the delayed circulation through the lungs. The cardiac impulse is feeble and of short duration; in some instances it may have, as it were, an undulatory or wave-like character. Such cases of acute cardiac dilatation in influenza are often fatal, especially in elderly patients, whose general powers of resistance are not great, or in whom addiction to alcohol has already impaired the recuperative functions of the heart. In non-fatal cases the cardiac dilatation is a temporary condition, which is often recovered from completely, though it is possible there may be a tendency of the heart to offer a diminished resistance to similar toxins for some time to come. Cardiac hypertrophy can but seldom develop during the acute influenzal attack, if it be true that hypertrophy is essentially a gradual process.

As regards the treatment of cardiac affections induced by influenza, this resolves itself in many cases into the treatment of functional disease of the heart, and in this we must undoubtedly give the first and foremost place to rest. Not that the patient need always be kept continuously in bed, though this may be absolutely necessary for a time when the cardiac affection first shows itself, but he must in every case be strictly warned against any and every exertion which can throw even the slightest strain upon the heart. He must be content to keep absolutely quiet, to spend the greater part of the day in a recumbent position; and even when the cardiac symptoms have abated, when the dyspnœa has disappeared and the pulse become more regular, he must still avoid everything which involves hurry or effort—in fact, the pace of living must be regulated by the condition at the time of the damaged organ. The strengthening of the cardiac contractions and improvement of the circulation may, after the maximum improvement has been obtained by rest, be effected by carefully regulated muscular and bodily movements, combined with such a diet as will tend to improve the cardiac nutrition.

[The author then speaks of the modes of treatment introduced by Oertel and by the Schott Brothers.]

As regards drugs, tonics such as quinine and strychnine are often of considerable service, not only to improve the general condition after influenza, but also to strengthen the heart. With rest and strychnine the irregular heart often entirely regains its normal action, and arrhythmia disappears. Digitalis and strophanthus may be of service sometimes, but it is of great importance to remember that we have such a drug as opium. In spite of the dislike which many physicians have of morphia in heart disease, there can be no doubt that by relieving præcordial discomfort, the sense of anxiety and sleepless nights, we do nothing but good, and if employed with care morphia is a most useful drug in functional heart affections. Excessive indulgence in tea, coffee, tobacco, and alcohol is to be avoided, as also are heroic methods, such as galvanisation of the vagus in tachycardia.—*Treatment, February* 8, 1900.

34.—RHEUMATIC DISEASE OF THE CARDIAC MUSCLE.

By THEODORE FISHER, M.D.Lond., M.R.C.P.,
Physician to Out-Patients to the Bristol Royal Hospital for Sick Children and Women, &c.

[The following is taken from Dr. Fisher's paper, the cases and other parts being omitted :]

All text-books on medicine speak of rheumatism as one of the causes of myocarditis, but the simple statement usually stands alone without comment. Clinically the possibility of lesions of the cardiac muscle following rheumatism is rarely thought of, and this is not to be wondered at, since, apart from associated valvular disease or adhesion of the pericardium, their presence is rare. Small fibroid patches are frequently seen scattered through the heart muscle in fatal cases of mitral stenosis, and although I have not seen sufficient cases to justify any dogmatic statement upon the point, it seems to me very probable that a careful study of the heart muscle in cases of mitral stenosis would explain the strange variability in the length of life they present. Sometimes extreme stenosis may be met with in the post-mortem room at the age of sixty years, while cases of comparatively slight constriction will end fatally before the age of thirty. In both instances the valvular disease will probably have dated from an attack of acute rheumatism occurring before the age of twenty.

Although we cannot ignore the view which attributes the above-named fibroid patches to a disordered circulation in the heart wall, it is also reasonable to consider that the fibrous tissue indicates the former presence of myocarditis set up by an attack of rheumatism. In support of such a view is the fact that occasionally acute myocarditis may supervene in a case of old valvular disease. It does not, however, require this visual evidence of disease of the heart muscle in cases of pericarditis to show us that there is poisoning of the cardiac walls. The rapid fatality of many cases is the best evidence of the poisoning. It cannot be considered possible that mere inflammation of the serous covering of the heart can arrest its action. But even if we consider the fatal event to be the result of the local inflammation when the whole of the pericardium is affected, cases occur in which the pericarditis is so limited that such an explanation cannot be held to be satisfactory. I have seen pericarditis rapidly fatal with great dyspnœa, where after death the inflammation of the pericardium was found to be limited to the surface of the right auricle. In rarer cases, where death occurs from cardiac failure shortly after an attack of rheumatism, without pericarditis or serious valvular lesion being present, we have the direct action of toxins upon the cardiac muscle still more strongly suggested.

Clinical experience seems to indicate that rheumatic poisoning of the heart may manifest itself in other ways. Dilatation and signs of valvular disease may be absent, yet there may be indications of weakening of the heart. After an attack of rheumatism, for example, a child may be noticed to have lost its activity, and will probably occasionally complain of pain over the cardiac area. Occasionally some degree of tachycardia may apparently be due to rheumatism. For example, a girl aged four years was brought to the Bristol Children's Hospital in August, 1896, by her mother, who stated that the child often turned pale, complained of pain over the region of the heart, and that on putting her hand to the chest the mother could feel the heart beating forcibly and at a great rate. Physical examination of the heart revealed nothing noteworthy. It was, however, beating rapidly—148 to the minute. There was a history of pain and swelling in the joints, and, curiously enough, after the first visit to the hospital the child had to be kept in bed for a week owing to pain and swelling in the right knee. This child has been seen again recently, and although the heart on physical examination still presents nothing noteworthy, the attacks of pallor, with rapidity of the pulse, are said to continue. In young adults mild anginal attacks may date their origin from recovery from acute rheumatism, and in the absence of the evidence of any physical disease of the heart the attacks are generally diagnosed as hysterical. A neurotic disposition may undoubtedly aggravate the symptoms produced by cardiac distress, but because there is evidence of neurosis it does not follow that the whole disease is functional. Just as true epilepsy may be masked by hysterical fits, so I have little doubt that some cardiac weakness may lie unsuspected beneath attacks of hysterical angina pectoris.

The subject of the milder effects of rheumatism upon the heart is interesting and important. In a child it is easy to mistake physical weakness for laziness, and in a young female adult the symptoms produced by the same weakness may be thought evidence of hysteria. In either case injudicious advice may result in cruelty, if not in actual harm, to the sufferer.—*Bristol Medico-Chirurgical Journal*, *March*, 1900.

35.—PROGNOSIS IN HEART DISEASE.

By BEVERLEY ROBINSON, M.D., New York.

[From Dr. Robinson's paper :]

The prognosis of heart disease is, of course, much influenced by ambient conditions and accidental circumstances. Wherever the cause producing secondary symptoms of heart disease is one which we have no power to change or modify, it is then very grave indeed. Where, however, there is present some condition which we can fairly hope to eliminate by judicious care, then our confidence is much greater that we can help our patient very much. We may have a very loud bruit, and yet the heart lesion is really slight. On the other hand, a very serious change of orifice or valve may be indicated by a very low bruit. In general it may be stated that it is the amount of hypertrophy or dilatation which marks the gravity of the murmur, and despite the fact that frequently the enlargement of the heart is also a protective power against secondary symptoms, which we most dread. Prognosis of heart disease is also affected by the stationary or progressive character of the lesion. As we know, this is a very difficult matter accurately to determine, and we can only judge of the one or other condition by the manifestation or not of secondary symptoms, such as pain, palpitations, and dyspnœa, not to speak of the physical evidences with which we are all too sadly familiar. Circumstances outside of the heart influence prognosis ; these are age, occupation, heredity, &c.

Heart disease is certainly graver in youth than it is in middle life. Structural defects of the heart muscle are not infrequently inherited. A laborious life, or one full of cares and anxieties, aggravates very much the prognosis, whereas a life of ease is productive of a stationary effect in the development of symptoms of heart disease. Serous effusions into the large cavities indicate gravity. This is greater with aortic than mitral disease. It is also of more serious import where the effusions come on insidiously than where they develop after a sudden shock or accident. It is probable, in many instances, that the mere presence of organic heart disease does not materially shorten life or interfere notably with its reasonable enjoyment, or with the fulfilment of one's duties and responsibilities. I have taken care of several old men and women who have unquestionably had mitral or aortic disease during a greater portion of their adult life, and who nevertheless lived to an advanced age. Moreover, not infrequently, they have been very little annoyed from their heart affection, and very rarely suffered from symptoms directly attributable to it. Even when such secondary symptoms did occur, through carelessness or undue exposure, by a short course of judicious treatment they were soon again enjoying their usual health. There is a proper application here to the conduct of insurance companies. Some of these companies refuse to take any cases of heart disease; others do so, but charge them a larger premium. Wherever there are no secondary symptoms of heart disease or evidences of disease of other organs, it seems to be wisdom to accept such cases in the latter way as a proper business veuture.

Cardiac enlargement, which in adolescent and adult life is most frequently under the dependence of obstructive or regurgitant disease of one or the other orifice, is often accompanied in old age with disease of the arteries. The arterial changes are sufficient of themselves, if not to cause intracardiac changes, at least to increase them when they have begun. Sometimes the myocardial degeneration connected with the increased size of the heart gives proof of its presence by distressing symptoms. Not infrequently, however, these changes exist for a shorter or longer period without manifesting their existence except by symptoms which indicate little or no gravity to the family physician. It is only when some really alarming symptoms declare themselves that anxiety of near relatives and friends is awakened I have also known several cases in which sudden death occurred in which previously the patient had usually enjoyed a very fair degree of health and activity. Sometimes, it is true, that some cardiac pain, either spontaneous or occurring after moderate exertion, of a pseudo-anginal type, had occasionally been present, and yet no undue anxiety either of patient or of loved ones had developed. At the necropsy of such patients myocardial changes more or less extensive are readily made out, even with the naked eye. The coronary arteries are frequently inelastic, hard, calcareous, or atheromatous. In their immediate area of distribution, and particularly near their trunks and about the inter-ventricular septum, cardiac fibres are already indistinct, pale, and fatty. Usually such changes are accompanied by notable cardiac dilatation. It is probable that if the symptoms of these conditions prior to death be properly estimated much may be done to ameliorate the patient's condition, to relieve suffering, and doubtless at times to prolong life and one's usefulness very much. There are instances, however, of the senile heart with unquestionable enlargement which during life, and for many years, have never given rise to any unpleasant symptoms, and are only revealed in an accidental way when the patient is examined by a physician for some entirely different affection.

More or less præcordial pain is one of the first symptoms which direct attention to the failing heart of the aged. This pain may be slight at first, and slowly increase, usually in an intermittent manner, or it may develop suddenly and with great intensity. In the latter instance, ordinarily, it follows over-exertion, severe mental shock, or exposure. It is accompanied with marked intermittence or irregularity of both pulse and heart beats. These symptoms may be temporary or lasting. Whenever they come on suddenly, and where some accidental circumstance sufficiently explains their advent, we may be hopeful that with judicious care they will disappear sooner or later. Where, on the contrary, they have developed slowly and somewhat insidiously, they are of serious augury, and usually indicate intracardiac changes, which will probably lead to the development of even graver symptoms. Wherever the lower limbs become œdematous and the serous cavities contain fluid in notable quantity it is very seldom that any therapeutic agents can ward off the approaching fatal termination for many months. We must insist, therefore, upon the great importance of watching carefully the first expression of cardiac inadequacy in old age, and guard against its rapid increase by such means as we have at our disposal In this place I wish to direct attention to a formula which has long been known as the diuretic wine of the Hôtel Dieu, or Trousseau's wine. It is essentially composed of digitalis, squills, juniper berries, acetate of potash, and white wine. In dessert or tablespoonful doses, repeated from three to eight times in twenty-four hours, I have seen it occasionally effect temporary good results which were very remarkable. Indeed, I have known it occasionally to effect a cure which lasted several years, where the patient was seemingly before its use (and where many other combinations had been previously resorted to without avail) in a very critical condition. Cardiac palpitations and tremor cordis are symptoms of the senile heart which, although distressing, do not as a rule augment the gravity of prognosis. It is a singular fact that cardiac palpitations do not affect old people nearly so often as they do the young. Is this due to the greater impressionability of adolescents, and particularly young women? Tachycardia may be due to some poison, like alcohol, tobacco, tea, or coffee, affecting the pneumogastric and diminishing its restraining influence. In such instances a prolonged period of abstinence will usually effect a decided improvement, and not infrequently a permanent cure. There are instances, however, in which the nervous poison has become so deep-seated that the distress and disability to the patient are never entirely gotten rid of. Of course, where the increased action of the heart is dependent upon structural changes, already clearly manifest in the heart itself, we cannot properly expect long-continued benefit from any remedial agents, although even here we should always be willing to recognise how imperfect our mere physical explorations may be, and how often our deductions therefrom are later on invalidated by the patient's evident improvement. I cannot emphasise too strongly the fact that we should never despair, even in advanced years, to secure benefit more or less lasting by the wise use of remedies. Not that we actually delay or prevent the advance of serious disease in these very grave cases, but we certainly do at times give most pronounced relief to the mere functional disablement, and this, after all, is the great rôle of the practitioner in cardiac therapeutics.—*American Journal of Medical Science*, *Jan.* 1900.

36.—THE CONTINUOUS USE OF DIGITALIS.

By Medicinalrat J. GROEDEL, M.D., Bad Nauheim.

[From Dr. Groedel's paper :]

There is no more difficult question than this : Is it advisable, and when is it advisable, and even necessary, to permit digitalis to be taken for a considerable period without interruption? The method of giving digitalis uninterruptedly, which is held by many to be inadmissible, has been practised by me, in particular cases, for years, and very often with great benefit. In the majority of heart diseases there comes a time when we can no longer succeed in producing a lasting compensation by means of repose and dietetic rules, baths and gymnastics, or even by a short course of medicine. At ever-decreasing intervals we must have recourse to the various acknowledged remedies, and above all to digitalis. We often meet with people who only lead a comfortable and endurable life for a few days after the conclusion of the digitalis course ; then it quickly passes off, and we are obliged to have recourse once more to digitalis, eventually combined with other drugs, in order to save the life which is in danger. Such people will never again be able to enjoy existence thoroughly; they are unfit for any vocation. In many cases we can arrest the approach of serious troubles, if we carefully observe the diuresis and the quantity of fluid which is taken, and administer accordingly a certain quantity of digitalis when for two or three days consecutively there occurs an evident decrease in the diuresis. Such cases frequently show a certain regularity. Then it is not advisable to wait until a distinct decline in the working power of the heart shows itself by a diminished secretion of urine, but to give digitalis at regular intervals: for example, one day a week, four to eight grains of folia digitalis, or some other preparation of corresponding strength. In another case it may be sufficient to give a similiar dose once a fortnight only, or once in three or four weeks, or perhaps a larger dose distributed over three or four days. Often it is possible to increase the intervals between the digitalis periods, replacing this drug in the meantime by continuous doses of other heart remedies, such as strophanthus, caffeine, &c. The same result can also be obtained by means of baths. Should all these fail, then we must try continuous digitalis treatment, with which we may often obtain a satisfactory result: a certain stability in the action of the diseased organ returns, so that for a considerable time the patient is able to lead a comparatively easy life, and take up his occupations once again, even if only in a more restricted way, without suffering the constant fluctuations between good health and serious illness. Naturally, with this treatment, as with every other, there comes a time when the heart-muscle and heart-nerves will no longer respond to the stimulant action of the remedy, which ceases to have any effect.

Now, going upon the basis of our knowledge of the effects produced by digitalis, what can be alleged against its continuous use? First of all, the cumulative effects of the drug. I have only rarely seen cases of violent toxic symptoms resulting from cumulative effects, which, however, never lasted long and did no permanent harm. We more frequently observe, even after small doses, the slighter secondary effects of digitalis, such as nausea or flashes before the eyes. But these symptoms have nothing to do with the effect of digitalis on the heart, and soon disappear when the remedy is left off. Often the system accommodates itself to the digitalis just with regard to these secondary symptoms. Nevertheless, they must always be taken as a warning to be specially careful. This must be still more the case when the pulse becomes irregular after only small doses, showing that the direct effect upon the heart is not a normal one. In such cases the use of digitalis, even in small doses and for a short time, is absolutely contra-indicated.

Another and far more important way of avoiding the dangers of cumulative effects, is by observing the diuresis. When digitalis has been administered in comparatively small doses for several days running without any effect on the diuresis, we must suspend the remedy for awhile ; after an interval of a few days we can make a fresh attempt by using larger doses at short intervals, and wait to see if the desired effect upon the secretion of urine makes itself evident or not. If there is an increased diuresis, then we may begin, either at once or after an interval of a day or two, to have recourse to the continuous administration of digitalis without fear of cumulative effects. I generally give one or two grains of folia digitalis daily ; others prefer tincture of digitalis, or some similar preparation in small doses. It is only necessary to leave off when there is an evident decrease in the secretion of urine, a considerable slowing down of the pulse. or when loss of appetite, nausea, or confusion of thought make themselves evident. After an interval of a few days, or, under some circumstances, after having made use of another heart remedy, we can begin the treatment once more. Another thing which is brought forward against the continuous use of digitalis is the assertion that it produces a rapid decline of strength, wasting and destruction of tissue. I must emphatically contradict this. Such symptoms cannot be attributed to the digitalis, but to the diseases for which the drug is taken. A further objection, to which I have already referred, is that by the continuous and repeated use of digitalis the body becomes inured to the remedy, which gradually loses its effect. This point of view is, in my opinion, an erroneous one ; or, at least, it is only true to a very limited extent, just in the same way as the statement that a long use of digitalis produces in some cases the drug habit, which becomes a kind of mania analogous to morphiomania.

We must admit that a heart which acts regularly under the continuous influence of digitalis is under more favourable conditions for its nourishment and the maintenance of its strength—not only of its muscular parts, but also of the heart and vascular nerve apparatus—than a heart which is placed only every now and then under these favourable conditions by larger doses of digitalis, while during the rest of the time it works and exerts itself uselessly, and must consequently wear out much sooner. With regard to mitral insufficiency, it is just in those cases, after everything else has been tried in vain, that the protracted use of digitalis very often proves so useful. This is much less the case in all other kinds of valvular lesion. But I think there is no indication that we should except any one entire class of valvular disease, as, for instance, aortic incompetence, although we know that any kind of digitalis treatment is often quite unsuitable in these cases. When from the beginning no contra-indications are present, as, for example, great tension of the blood vessels, or an individual repugnance to the remedy, then in each individual case an attempt, if carefully observed, will soon prove whether continuous digitalis treatment can be used or not.

Eichhorst specially recommends protracted treatment by digitalis in cases of slight fatty degeneration of the heart muscle resulting, for instance, from alcohol or tobacco, when the power of the heart muscle has long been weakened, but is still capable of reparation. Also in his "Handbuch der spec. Path. und Therapie," he recommends in such cases a long course of digitalis in small doses, after the threatening symptoms have disappeared. In these cases it is generally both possible and useful, according to my experience, to replace the small doses of digitalis for a week at a time by some other heart remedy, and then order digitalis for another week, and so on. I have treated a comparatively large number of patients in this way (especially with corresponding dietetic treatment, and often with the further help of Nauheim baths or gymnastics) who have become permanently sound again. In purely nervous disorders of the heart such as functional tachycardia, or Graves's disease, the protracted employment of digitalis is useless. In arteriosclerosis it is only in the last stage, when the high vascular tension consequent upon a preponderating muscular insufficiency of the heart has passed away, that small continuous doses of digitalis are decidedly useful. The same must be emphasised as regards disordered circulation in chronic nephritis. Here the peripheral resistance to the circulation of the blood is particularly strong, and therefore some authors think that in these cases digitalis treatment is altogether contraindicated, or exceedingly dangerous. And yet even in such instances, we must sometimes try protracted or continuous digitalis treatment, when dilatation and extreme insufficiency of the heart muscle appear with all their sad consequences. As a rule, however, I cannot uphold the continuous use of digitalis in such cases.

Finally, and in order to avoid misunderstanding, I need only say once more that in the treatment of chronic disorders of the circulation, I abstain as long as possible from prescribing digitalis, and place physical and dietetic means of treatment in the front rank. If these alone should fail, then I turn to the help of drugs, and above all to digitalis, using it with care, very sparingly, and at as long intervals as possible. It is only at the stage when this method becomes comparatively a failure that I have recourse to continuous digitalis treatment, which, when all other treatment was useless, has produced in many cases a satisfactory result.—*Practitioner*, *April*, 1900.

37.—THE VALUE OF X-RAY EXAMINATIONS IN THORACIC ANEURISMS AND NEW GROWTHS.

By Francis H. Williams, M.D., Boston.

[From Dr. William's paper :]

It is now recognised that x-ray examinations are of special value in diseases of the organs within the chest. This x-ray examination of the chest may show, for example, that the outlines seen on the fluorescent screen, on one or both sides of the sternum, differ from those that present themselves in health. Whether or not this variation from the normal is due to a new growth or to an aneurism cannot always, of course, be determined by the x-rays alone. They furnish only one way, though a very valuable way, of studying this region. But if any departure from the normal outlines in this portion of the thorax is found, the physician should determine whether or not there is pulsation and whether the abnormal outline is nearer the front or the back of the chest. This latter fact can be ascertained by making two examinations of the patient ; that is, first with the fluorescent screen placed on his chest, and second, on his back. To accomplish this end the patient may be turned, or the Crookes tube may be moved. If there is disease of the spine, producing displacement of the aorta, a careful x-ray examination of the line of the vertebræ would reveal the cause of its unusual position. Moreover, in some healthy individuals the aorta is more prominent than in others. I have examined some persons in whom there was no trace of aneurismal dilatation, but in whom the outline and even the pulsation of the descending aorta could be followed. Further, care must be taken to distinguish between new growths in the thorax and an aneurism. For this purpose a careful determination of the position of the outlines, not only laterally but anteroposteriorly, is important. If, for example, when examining the chest, a small shadow is seen on the fluorescent screen in the neighbourhood of the descending aorta on the left of the sternum, the physician must determine whether it is cast by something situated in the front or back of the chest. For if a small shadow on the left of the sternum is produced by something in the front of the chest, the diagnosis of aneurism may be excluded. The position of the object producing the shadow as regards its relation to the back and front of the chest of the patient may be readily determined by a method I devised for locating foreign bodies (see Medical and Surgical Reports, Boston City Hospital, January, 1897). As a rule, an aneurism of the ascending portion of the aorta will be found nearer the front of the chest than the back ; whereas aneurisms of the descending aorta in the early stages would be found nearer the posterior portion of the chest than the anterior. If pulsation of the outline is seen, we probably have to do with an aneurism, though it is possible that a movement might be given to a new growth situated over the aorta.

Let me diverge a moment here from the immediate subject to say that new growths in the chest may be often recognised better by x-ray examination in the early than the later stages, because when the disease has progressed so far as to fill up the thoracic cavity it is difficult to know whether the appearances seen on the screen are due to the presence of a new growth or to some conditions which make the lungs and pleuræ denser than normal. In aneurisms of much size the heart is often displaced or greatly enlarged. In making a diagnosis of a given case, the outline of the shadow seen on the screen should be carefully drawn upon the skin with a suitable pencil, both on the front and back of the chest, and, as already stated. the physician should determine whether the object causing the shadow is nearer the front than the back of the chest. The history of the case should also be carefully considered, the patient's age, and the duration of the symptoms ; for while in some cases the diagnosis of an aneurism is a very simple matter with the aid of the x-rays, it may in others be difficult to recognise the cause of the abnormal outline found by means of the fluoroscope.

In general, it may be said that aneurisms of the thoracic aorta may be seen by the x-rays before there are physical signs ; that where it is desirable to be sure that no thoracic aneurism exists the x-ray examination can render much service. Cases of aneurism may give physical signs suggestive of tuberculosis, neuralgia, or œsophageal stricture. I have examined with the x-ray 34 cases where aneurism was suspected, and one case to determine the size of the heart, when an unsuspected aneurism was discovered ; 35 cases in all. Of these cases, 15 had typical aneurisms ; six had more or less dilatation of some portion of the aortic arch ; one showed an outline suggestive of aneurism of the aortic arch, but there was no pulsation. This abnormal appearance was proved by an autopsy to be due to a mass of glands. The remainder gave normal outlines in the region where an aneurism had been suspected.—*Boston Medical and Surgical Journal*, *January* 18, 1900.

38.—THE TREATMENT OF ANEURISMS BY SUBCUTANEOUS GELATINE INJECTIONS.

By THOMAS B. FUTCHER, M.B., Baltimore,
Resident Physician to Johns Hopkins Hospital, &c.

[The following is from Dr. Futcher's paper :]

To Lancereaux of Paris is due the credit of having introduced this method to the medical profession. The treatment in question consists in the injection of sterilised solutions of gelatine into the subcutaneous tissues.

Technic of Giving the Injections.—Lancereaux gives the following directions for the making of the gelatine solution and the giving of the injections. The solution is made by dissolving 4-5 grams of white gelatine in 200 c.c. of 0.7 per cent. sodium chloride solution, and sterilising thoroughly at 120 C. The flasks are kept for several days at a temperature of 38 C , and any in which the gelatine becomes turbid or fails to harden in the cold are discarded. For giving the injections he uses a 500 c.c. sterilised flask, with a tight-fitting rubber stopper through which two glass tubes pass. One of the glass tubes extends to the bottom of the flask and is connected by rubber-tubing, with a proper-sized needle. To the other short glass tube a stiff rubber inflating-bulb is attached. In order to purify the air a glass bulb filled with absorbent cotton is interspersed between the rubber bulb and the flask. The temperature of the gelatine solution must be 37.6. According to Lancereaux, no pain should be produced by the injections. With proper asepsis and antisepsis there should be no general nor local reaction. After the injection the patient should have absolute rest, and palpation of the aneurism must be avoided. The injections are made at intervals varying from two to fifteen days. Lancereaux thinks that best results are obtained by giving them every sixth to eighth day. He states that, generally speaking, ten, fifteen, or twenty injections are necessary to effect a cure. He advises injecting the gelatine solution into the subcutaneous tissue of the thigh, and never into or in the vicinity of the aneurismal sac. Huchard emphasised the importance of aneurism patients taking the proper sort of diet. An essential point in the treatment is the lessening of the arterial tension. For this reason all sorts of food which tend to produce toxins having a vasoconstrictor action must be avoided. Bouillon, fat soups, meat, fish, particularly sea-fish, and cheese must not form a part of the patient's dietary. Alcohol, tea, coffee, and tobacco are also forbidden. A strict milk diet is preferable, but fruits and leguminous foods may also be permitted. Drugs which cause a dilatation of the blood-vessels, such as iodides and nitrites, are also useful. Of Lancereaux's five cases, three were reported as being cured. In these cases the aneurism was saccular in form. The other two, which terminated fatally, were instances of diffuse dilatation of the arch of the aorta. In all five cases there was no local reaction following the injections; there was no elevation of the temperature and the injections were not painful. In the two fatal cases no serious consequences occurred which could be attributed to the gelatine injections. That the gelatine injections are not entirely without danger to the patient is suggested by the cases reported by Boinet and Barth.

With the object of giving the gelatine treatment a trial, Dr. Osler commenced its use in a series of aneurism cases admitted to the medical wards of the Johns Hopkins Hospital. Following Lancereaux's latest directions, we have used 250 c.c. of a 1 per cent. solution of white gelatine in physiologic salt solution at each injection. In the early cases the injections were made every other day, but subsequently they have been given every fifth day. They have been given either into the subcutaneous tissue of the thigh or into that of the abdominal wall. Frequently the injections were much less painful in the latter than in the former situation. Instead of following the technic of Lancereaux, we have used, as a satisfactory substitute, a 50 c.c. syringe, five syringefuls being injected, care being taken not to introduce any air. The injections were made under the strictest aseptic precautions. The solution must be introduced slowly, otherwise it will cause considerable pain. It is not absorbed so readily as normal salt solution. Since October, 1898, the treatment has been commenced on nine aneurism cases in all. In only the first six of these patients had the injection been given sufficiently long for the treatment to have had a fair trial. In all the cases the blood coagulation time was taken by means of Wright's coagulation tubes immediately before and six hours after each injection was made.

The following conclusions may be drawn from our experience with the gelatine treatment in these nine cases:—(1) In not a single instance has the aneurism been cured, although in one case the abdominal aneurism has diminished considerably in size, and the case is still under treatment. (2) In seven of the nine cases there was an appreciable diminution in the subjective symptoms referable to the pressure of the aneurism. (3) It seems quite certain that the subcutaneous injection of gelatine solution does materially increase the coagulability of the blood. (4) Contrary to the statement of Lancereaux, we have found that the gelatine injections are frequently very painful to the patient, the pain lasting and being most intense often as late as six hours after the injection. (5) Although Lancereaux states that with strict antiseptic and aseptic precautions there should be no elevation of temperature, we have found to the contrary. In several instances the injections were followed, two to four hours later, by a distinct chill, with an elevation of temperature reaching at times as high as 103 F. In no case did we have any local suppuration, and in only one case was there even any local reaction. (6) Notwithstanding the fact that we have not yet a case which can be reported as cured, I am convinced that there is some merit in the treatment, and that it deserves a further trial.—*Journal of the American Medical Association*, *January* 27, 1900.

DISEASES OF THE ORGANS OF RESPIRATION.

39.—THE TREATMENT OF PLEURISY.

By Prof. G. DEBOVE.

[From Dr. Debove's paper :]

In the immense majority of cases, pleurisy is of tuberculous origin, and its treatment is merged into that of pulmonary phthisis. Sometimes, however, the pleurisy is of rheumatic origin, and in this event the treatment by salicylate of soda is indicated. Nevertheless, in treating the cause the medical treatment of the pleurisy itself should not be neglected. This treatment consists mainly in counter-irritants, drastics, and diuretics. The counter-irritants should be applied to the chest on the side affected, and particularly over the seat of pain. They rapidly lessen and may even subdue two important phenomena: pain and dyspnœa. You may choose between dry cupping, wet cupping, leeches, chloride of methyl spray, sinapisms, or the actual cautery. Wet cupping should be reserved for cases in which the pain is very severe. Under the same circumstances the blister, which constitutes the classical medication, may also be employed. I am not, however, a great partisan of the blister. In justification of the employment of drastic purgatives in pleurisy, the following explanation has been given: the loss of serous liquid provoked from the intestine must produce concentration of the blood, which makes up for the loss by borrowing from the serum of the effusion the liquid elements which it needs. This pathology is somewhat ingenuous, but we would not offer much objection if it were in accord with clinical observation, which proves to us that drastics fatigue the patient and never favour absorption of the effusion. Based on the same reasoning, diuretics have been recommended ; but these again have never been seen to cure a pleurisy, and it must not be forgotten that a certain number of diuretics have an injurious influence on the kidney. Since counter-irritants, drastics, and diuretics cannot bring about the absorption of the liquid, it only remains for us to evacuate the fluid by surgical means, that is to say, by thoracentesis. This operation, however, should not be practised in all patients ; it should not be resorted to, for instance, in pleurisy supervening at the last stage of consumption, in purulent infection, or uræmia, unless the dyspnœa is very marked. Age is not a counter-indication to thoracentesis ; it has been practised with success on children under a year old and on very aged persons. If the liquid does not exceed a pint, the operation is not necessary ; if, on the contrary, the effusion amounts to a quart, it should be done, especially if there is much dyspnœa. To avoid syncope before or after the operation, I am in the habit of operating upon the patient in the horizontal and not in the sitting up position, as is usually preferred.

In order not to introduce pathogenic organisms into the pleura where they would find a favourable *milieu* for their culture, the needle must be sterilised by passing it rapidly in a flame and placing it in boiling water for a few minutes. The skin must be carefully disinfected over the region of the little operation, so that the point does not carry with it the germs which, under ordinary circumstances, are found on the surface of the skin ; the parts should first be washed with soap and water, then with ether, and finally with a solution of corrosive sublimate. The puncture should be made in the fifth intercostal space in the mid axillary line. At this point the thoracic wall is comparatively thin, the ribs are sufficiently separated from each other, and one is sure to be far enough from the diaphragm not to run the risk of wounding it, while the heart and the large vessels are out of harm's way. The needle should be pushed in quickly, and as close as possible to the upper margin of the rib so as not to wound the intercostal artery or nerve which run along its lower border. Among the accidents which sometimes follow thoracentesis I may mention : Rapid reproduction of the effusion, its purulent transformation and albuminous expectoration. Albuminous expectoration follows in cases in which too great a quantity of liquid had been rapidly evacuated. The accident may assume three forms : slight, severe, grave. In the first named there will be dyspnœa, with continuous expectoration, accompanied by fits of coughing. In the severe form the expectoration is very abundant, the dyspnœa intense, auscultation reveals œdema of the lung. In the grave forms the patient succumbs rapidly to asphyxia. Many hypotheses have been promulgated to explain the occurrence of albuminous expectoration, but it appears to be proved that it is the result of congestion of the lung, with acute œdema and serous invasion of the alveoli. The accident may be avoided by never withdrawing more than a quart of the liquid at a time. If the effusion be very abundant a second operation may be done on the following day, for thoracentesis is as benign as it is simple. There is, moreover, no objection to leaving a little liquid in the pleura, for this is sometimes very quickly absorbed without necessitating a second operation.

Among other accidents due to thoracentesis I may mention pneumothorax, wounds of the lung, cough, and thoracic pain. Pneumothorax is hardly to be feared. A wound of the lung is not very important, but syncope is sometimes very serious when due to a too complete and too sudden evacuation of the fluid, producing rapid congestion of the lung and anæmia of the medulla as a consequence. The cough is dry and irritating, and so painful that the operator is obliged to stop. Sometimes intra-thoracic pain is produced which may become so severe as to render it necessary to suspend the operation. This pain is probably due to distension of the pleura when the compressed lung returns to its normal volume.—*Medical Press and Circular*, *February* 21, 1900.

40.—TREATMENT OF PNEUMONIA.

By Sir WILLIAM H. BROADBENT, Bart., M.D., F.R.S., F.R.C.P.,
Physician Extraordinary to H.M. the Queen, &c.,
and
By JULIUS DRESCHFELD, M.D., F.R.C.P.,
Physician to the Royal Infirmary, Manchester.

[The following is taken from Sir William Broadbent's article on Pneumonia :]

Pneumonia being a disease of short duration, with for the most part an assured critical termination in a few days, we can afford to watch and wait. The temperature is not a source of danger, either from the height to which it rises or from the time it will remain high. Nothing is to be gained, therefore, by violent efforts to reduce it, either by the external application of cold or by antipyretic drugs. Cold or tepid sponging will be a comfort to the patient, and may soothe and facilitate sleep ; beyond this it is not necessary to go. Antipyretics, such as antifebrin antipyrin, phenacetin, given continuously are not only useless but injurious. A single dose at the outset has, in the experience of competent observers, seemed to cut short an attack, and an occasional dose early in the disease may relieve headache and procure sleep, and is therefore permissible; but the systematic administration of any of these drugs depresses the heart and impairs the resistance to the debilitating effects of the disease—possibly, indeed, interferes with the cycle of processes by which the crisis is reached. In the conduct of a case the line of treatment must be determined by the antecedent condition of the patient, and by the front he presents to the attack; and the attention of the medical man must be directed mainly to the early recognition of any functional derangement or complication, or any indication of failing power. Precise directions as to food would here be out of place. The nourishment will, of course, be liquid and adjusted to the digestive capacity and general condition of the patient, any idiosyncrasy being respected. Stimulants are rarely necessary, often useful. The rule should be to reserve them till they are indicated by a frequent, small, short and weak, or faltering pulse, a dry tongue, restlessness, or delirium. If the patient sleeps after a little brandy or champagne, or if the pulse becomes less frequent and larger, it has done good. In some exceptional cases a considerable amount of brandy may be required, perhaps 10 to 12 ounces of spirit in the twenty-four hours, and sometimes brandy given in champagne seems to have a better effect than either alone. When sleeplessness is persistent and distressing there need be no hesitation in giving morphia hypodermically, beginning with a small dose. Morphia is all the more useful if there is delirium.

In a large proportion of cases it cannot be said that the regular administration of medicine of any kind is necessary, but it is usually a comfort to the patient and friends to have the feeling that something is being done. Simple salines, acetate or citrate of ammonia and citrate of potash, allay thirst and exercise some influence on the cough. They are more refreshing when in the form of an effervescing mixture. Carbonate of ammonia and bark may be added when indicated by a flagging pulse, or one or two grains of quinine may be given in the form of tabloid or pill, or dissolved in the acid of the effervescing mixture. Strychnine is often of very definite service when the cardiovascular system is manifesting an asthenic tendency. It is best given hypodermically, in doses of 1/60 gr. to 1/30 gr., at intervals of from twelve to four or three hours, and it is important to note that it may be required early. Digitalis has been elevated almost to the level of a specific in the treatment of pneumonia, and it may be extremely useful on occasion, especially as digitalin, with strychnine hypodermically; but given at all periods of the disease, and in large doses, it is of very doubtful value. The inhalation of oxygen is attended with striking, but usually fugitive, apparent benefit when there is a lividity of the countenance and blueness of the lips, and it is possible that it may, with strychnine and stimulants, carry a patient through a very dangerous phase of an attack.

Dr. Lees advocates the application of an ice-bag to the chest over the affected lung, and external cold has been found to relieve the pain of the associated pleurisy, and is often said by the patient to be grateful. Cases have been published in which the ice-bag has seemed to shorten the attack; but nothing can be more difficult than to form a definite opinion on this point, and it is not easy to see how the course of the disease, of which the inflammation of the lung is a local expression, can be so influenced. A large body of statistics would be needed to establish the beneficial effects. Poultices were until recently almost universally applied, the first one or two usually containing mustard so as to redden the skin. The practice has its justification in the relief of pleuritic pain and of the cough, but a large jacket poultice constantly applied soon becomes oppressive, and when changed every three hours it is a cause of fatigue and distressing exhaustion. All that is valuable in the use of poultices may be retained without the disadvantages attending their too assiduous employment by the application of one for three hours twice in the twenty-four hours. Venesection has rightly been banished from the treatment of pneumonia, but in one particular complication, very rarely met with, it may be of the greatest service. This is when early in the attack the invasion of the lung is so rapid that the right ventricle is unable to cope with the sudden resistance in the pulmonary circulation, and is paralysed by over-distension. The patient will be cyanosed, unable to speak, and scarcely able to breathe or cough; he will be sitting up in bed with his legs over the edge unless prevented, supporting himself on his hands, the veins of the neck and temples turgid, the eyes staring, the expression agonised, and beads of sweat standing on the face and forehead. The pulse will be small and short, probably scarcely perceptible, while the heart will be found beating violently. It is scarcely possible to define the heart by percussion, but the right cavities are enormously distended, and the contrast between the cardiac impulse and the pulse shows that the blood is dammed back in the lungs so that it reaches the left ventricle in very inadequate amount. Under such circumstances the relief by bleeding is most striking. The pulse improves as the blood flows, the breathing is relieved, and when 16 to 20 ounces have been withdrawn all the distressing symptoms will have disappeared. The same results are not to be expected later, when asthenia has become a prominent feature in the symptoms, although, of course, there is dilatation of the right heart.

It has been already stated that delirium is common in the course of pneumonia. It usually subsides at the crisis, especially when with this there is a long, quiet sleep. But it may persist and become more violent, or violent delirium may set in after the crisis. It is probably of toxic origin, the source of which may be the exudate absorbed into the blood, or it has been attributed to asthenia. The remedial measures are nourishment and stimulants, with strychnine and digitalin hypodermically.—*Practitioner*, *January*, 1900.

[Dr. Dreschfeld thus speaks of the general management, diet, and insomnia :]

The patient should at once go to bed, and be kept as quiet as possible. The sick room should be light and airy, and well ventilated, the temperature of the room (except in the case of old people) maintained at not more than 60 deg. F. to 63 deg. F.; the patient should not be covered up with too much heavy bed-clothing, and should wear light flannel garments. The patient should not be disturbed by repeated examination of the chest ; he should not be allowed to sit up, or get up for the performance of the necessary functions, often a most difficult order to carry out. He may be sponged at least once daily with tepid water, to which toilet vinegar can be added. The mouth and gums should be kept clean by means of a soft tooth-brush, and the mouth rinsed out several times daily with boiled water to which a little boracic acid or other suitable antiseptic is added. Nightlights or lamps are preferable to gaslight for illuminating the room. The patient must never be left alone, and if delirious should, if possible, have two persons in the room, or within easy distance.

The feeding should be in accordance with the ordinary fever diet. The food should be light, as the secretions essential for digestion are deficient ; it should be nutritious and abundant, and given in small quantities at short intervals. As the appetite is diminished and thirst increased, liquid food should be given, which has the further advantage of increasing diuresis, and thus perhaps helping in the elimination of the toxin. It is best to give milk 3 to 4 pints, in twenty-four hours, mixed with limewater or aërated water ; beef-tea and broth may be given cold and thickened with breadcrumbs ; eggs may also be given beaten up with the milk. Some patients cannot take milk by itself, but will take peptonised milk, or milk to which a small quantity of tea is added. If milk cannot be borne at all, then gruel, arrowroot, or Benger's food, may be given with some of the artificially prepared foods (Somatose, Eucasein, Brand's Essence, &c.). It is well during the first two days to give small quantities of milk, and to increase the same as the disease progresses. I would like to point out that the patient should not be given too much liquid food. I have often noticed, especially in alcoholic cases, that the patient has been given 4—5 quarts of milk in the twenty-four hours, besides beef-tea, stimulants, and soda water. Such large quantities of fluid are apt to produce flatulence, tympanitis, and may help to bring about cardiac dilatation, to which alcoholic subjects are particularly prone. Sugar of milk, which we so freely add to the milk given to babies, might also with advantage be added to the milk (about 1 drachm to half a pint). To quench the thirst the patient may take small quantities of pure water or aërated water, unless this produces flatulence. Small quantities of alcoholic stimulants, on account of their caloric value, may be given in most cases of pneumonia, except in plethoric subjects. Larger quantities are only to be given when special indications arise. Liquid diet should be continued for some days after the crisis has set in.

Insomnia is a most troublesome and an almost constant symptom. During the first two or three days a dose of morphia may be given; but at a later period, when there is expectoration, it is looked upon by many as a dangerous drug. The application of a cold compress or ice-bag to the head, cold sponging, an additional dose of brandy in the evening, may safely be tried, but often give no relief. Trional and sulphonal I have not found to be of much use; chloralamide (10—20 grains) is more useful; paraldehyde (2—3 drachms), especially in alcoholics, has a better effect. If we have to deal with a nervous and excitable person, 20—30 grains of bromide with digitalis will sometimes bring the desired result, and in many cases, unless there be signs of heart failure—and this is just the time when the insomnia is more pronounced—20 grains of chloral with ½ ounce of infusion of digitalis may be given. The fear of giving morphia, however, is, I think, exaggerated, and unless there be tenacious sputum difficult to expectorate, a dose of morphia or 10 grains of Dover's powder often procure several hours' sleep without any bad effect. I have till recently avoided giving hyoscine; but in two cases which have lately been under my care, both alcoholics and both young persons, a subcutaneous injection of 1/150 grain of hydrobromide of hyoscine was well borne, produced several hours' sleep, and had no bad effect.—*Practitioner*, *March*, 1900.

41.—THE CARBOLIC METHOD FOR THE DETECTION OF TUBERCLE BACILLI IN SPUTUM.

By E. W. Hammond, D.V.S.,
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The following method, while in principle by no means new, has in my hands proved by far the simplest and most certain method of detecting tubercle bacilli in sputum, and I am led to draw attention to its value because I find the older and more cumbrous method of dissolving out the mucin of the sputum by means of caustic potash, is still very prevalent—a method which is slower, dirtier, and so far as my experience goes, by no means so certain to afford the tubercle bacilli when but few are present. I have been unable to put my hands upon the article in which this method was first published, but if I remember aright it originated in Germany or Austria about the year 1893 or 1894. Kanthack and Drysdale in their "Course of Elementary Practical Bacteriology" (1895), refer to it and acknowledge that it is by far the best method for detecting tubercle bacilli. They recommend that 10 to 20 cc. of the sputum be added to 100 cc. of a 5 per cent. solution of carbolic acid in a small flask and the mixture be shaken vigorously for five minutes until the sputum is thoroughly disintegrated ; that then the contents of the flask be poured into a urine glass and allowed to stand for twelve to twenty-four hours. After decantation a little of this sediment is to be removed from the extreme depth of the glass and rubbed between two cover glasses. The films so made are to be dried in the usual manner, then washed in a mixture of alcohol and ether for one to three minutes, and after having been dried between filter paper and passed again through the flame, they are to be stained with carbol fuchsin according to the ordinary method. Where the sputum is watery they recommend that to 100 cc. of it 5 cc. of glacial carbolic acid be added and the mixture shaken and treated in the above manner.

The modification of this method employed by me is more rapid than the above. So soon as the sputum arrives at the laboratory there is added to it an equal volume of 5 per cent. carbolic acid, the mixture is then briskly shaken up for a few minutes ;—by this means the mucus is broken up and disintegrated. It is then allowed to settle. Sedimentation takes place very rapidly and it is not necessary to wait for twelve to twenty-four hours as recommended by Kanthack and Drysdale ; indeed, within an hour all the bacilli which are present would seem to be deposited. And now using a pipette of small calibre the deepest portion of the sediment is drawn up, a small drop is placed on each of two perfectly clean coverslips, made into a film, dried in the air and then passed three times through the flame of a Bunsen burner. It is not essential to treat with the mixture of alcohol and ether, but forthwith a drop or two of carbol-fuchsin can be placed on the coverslips and a film be stained by the ordinary method and counterstained by means of Gabbitt's blue. Besides the disinfection of the sputum which is insured by this means—in itself an advantage—the method is both simpler and much pleasanter to work with than is the use of caustic potash with or without boiling, while it would seem that the preliminary employment of the carbolic acid to a definite aid to the subsequent staining by means of the carbol-fuchsin.—*Montreal Medical Journal*, *March*, 1900.

42.—THE PREVENTION OF CONSUMPTION.

By JOHN ROBERTSON, M.D., B.Sc.,
Medical Officer of Health to the City of Sheffield.

[From Dr. Robertson's paper :]

In Sheffield, and a good many other towns, arrangements have already been made whereby medical men may have specimens of sputum examined for tubercle bacilli free of charge. So far as the general community is concerned, there are many tubercular conditions which are free from the danger of being infectious. From this point of view it is of the highest importance to deal with those patients who are expectorating enormous numbers of bacilli, or those cases of scrofula of the hands, and other cases actually discharging the tubercle bacilli. One of the conditions attached to notification in Sheffield is that the patient shall be infectious. However desirable it might be to know of all cases, whether infectious or not, there is clearly no right on the part of the authority to ask or to expect information in regard to persons who are not in an infectious condition, and who are, therefore, not in any way a danger to the community. The non-infectious cases, of course, may at some later period become infectious, but, till then, they are not a danger. This limits the number of persons who might with advantage receive particular instructions from the Sanitary Authority. It is probable that there are as many persons suffering from varieties of tubercular disease who are not in an infectious condition as there are of persons who are infectious. It must always be remembered that such persons received their infection from someone who was infectious, either directly or indirectly. The real extent of the prevalence of the disease will never be known until there is some means of learning of all cases, but at present there seems to be no reasonable way of getting this information.

The next question that has had to be dealt with by administrative authorities is—what steps are to be taken on becoming aware of a case of consumption? On reviewing what is being done in our large towns throughout the country, one finds that two objects are kept in view. The first is that the infectious person should in some way get to know of his infectiousness; and the second point is that any condition of environment which is prejudicial should be dealt with by the Sanitary Authority. As regards the first of these two points, the leaving of a leaflet at the house is all that as yet has been done. As regards the second, a large amount of real and valuable work is possible. If anyone has a doubt as to the value of the notification of phthisis, let him look at the reports and evidence which can be obtained from many of the large cities of the United States. In New York it has been the means of pointing out the fact that cases of tuberculosis, to a very large extent, occur in localised areas, whilst other areas remain comparatively free. If one glances at such a map it almost looks as if one house were capable of infecting another. Doubtless, the intercommunication which takes place between neighbouring houses is the cause of this. Given definite proof of such an area, there appears to be an unmistakable duty on the part of the Sanitary Authority to take the necessary steps to stamp out the existing infection. The Manchester Corporation have already appointed one qualified medical man to visit the houses and to make the inquiries. Sheffield and many other towns have appointed an unqualified inspector, with instructions that he is to do nothing which will in any way interfere with the comfort or the peace of mind of the person suffering. In about one-third of the thirty-three great towns in England and Wales, systematic disinfection of the houses after recovery, removal, or death, has been instituted. From experimental evidence which we possess, it is probable that the disinfectant that should be used for this purpose is chlorine in some form, and that the process should be a thorough one.

The great question of the danger to public health arising from tuberculosis amongst animals has been dealt with by a good many Sanitary Authorities. There can be no doubt about the fact that it is of no use our spending huge sums of money for the prevention and cure of human tuberculosis when so fertile a source of infection as tubercular milk is allowed to exist. It will probably be found that tuberculosis of the udder of the cow is not the only source from which the infection can be derived, but that the tubercular sputum of the cow, and the tubercular dust in dairies, &c., are a potent source of the disease.—*Quarterly Medical Journal*, *February*, 1900.

43.—THE VALUE OF MEAT IN THE PREVENTIVE AND CURATIVE TREATMENT OF PULMONARY TUBERCULOSIS.

By F. PARKES WEBER, M.D., F.R.C.P.,
Physician to the German Hospital, London ; &c.

[From Dr. Weber's paper :]

There are certain observations on men and dogs which make it seem probable that animal proteid food has an especial value in increasing the resistance of the tissues towards tuberculosis. Many observers have held that there is a certain antagonism between gout and tuberculosis, and, although there are many exceptions to the rule (notably in regard to gouty persons addicted to alcohol and gouty persons who have become generally decrepit), I believe that this antagonism does to some extent exist. The wealthy classes on the whole are inclined to indulge excessively in animal food, and by this means, in some countries at least, favour the development of gouty diseases. On the other hand their mortality from pulmonary tuberculosis is relatively slight when compared to that of the poorer classes. In the case of large cities in which the streets are classified firstly in regard to the wealth of the inhabitants, and secondly in regard to the mortality from consumption, this can be conclusively shown. Doubtless overcrowding and all kinds of bad hygiene play an immense part in determining the relatively great incidence of tuberculosis amongst the poor ; but the insufficiency of meaty foods is, I believe, likewise partly responsible. The poorest classes, though they often obtain abundance of carbohydrate food, can generally obtain very little of the more expensive meaty foods. Great meat-eaters, if not alcoholic, rarely, even in the most unhygienic surroundings, become phthisical ; and it may likewise be noted that in all charitable hospitals and sanatoria for tuberculosis more animal food is provided than the patients, owing to their poverty, can generally obtain in their own homes, whereas many of them have been already accustomed at home to as much carbohydrate food as they care for. Dr. J. Dvorak's remarks at the recent Berlin Congress may likewise be referred to. He pointed out that in Bohemia a want of resistance to disease was very noticeable in children fed with much carbohydrates and with too little animal proteids. Charles Richet's recent experiments on dogs are, moreover, very suggestive in this respect. He inoculated a certain number of dogs with tubercle. Those fed on a mixed carbohydrate and meat diet died on the average in thirty days, whereas those fed exclusively on abundance of raw meat survived for a very much longer period, and five out of ten were still living a year and a half after the experiment.

I should be sorry to be thought to be recommending a meat diet as a kind of panacea for all tuberculous diseases, or indeed to be recommending it at all indiscriminately for phthisical patients ; but I wish to lay stress on the questions referred to, which have been relatively less discussed than most other points in the therapeutics of tuberculosis. Every one must admit the general value of good feeding in tuberculosis, and notably of abundance of fats in many cases of phthisis. A due proportion of vegetables and fruits is admittedly of great importance, perhaps especially for their antiscorbutic action in growing subjects. Moreover, in regard to the suitability of meaty foods, as in all other matters of treatment, great differences must be observed in different individuals. Whilst some persons have an inherent dislike for much meat, others have a great inclination to it, and in some cases a fair amount of butcher's meat in the diet will stimulate the appetite enormously for all kinds of food and render digestion more vigorous. This doubtless explains some of the value of abundant meat in regard to tuberculosis. In very acute and feverish stages of phthisis the advisability of much meat is naturally quite another question. In very advanced cases the great excretory organs, the kidneys and liver, are frequently damaged. The liver especially, which plays a very great part in the last stages of nitrogenous tissue-change, is almost always enlarged and infiltrated with fat in advanced and hectic cases of phthisis, showing clearly that its important functions are only imperfectly carried out. This state of the liver in bad cases of phthisis is due, I take it, partly to the fever, partly to the imperfect aëration of the blood owing to the damaged lungs, and partly to a toxæmic condition resulting from the absorption of harmful substances from the alimentary canal and from the breaking down of tuberculous foci. In such conditions obviously the diet must be of the blandest kind.

This brings me to another point. Obviously in the preventive and curative management of tuberculosis the liver and abdominal organs must be maintained in the greatest possible state of vigour and activity in order to make the best use of the food supplied. In preventive treatment, at least, how can this be better carried out than by insisting on a proper amount of open air exercise? By open air exercise, especially with a certain amount of up-hill work, the respiratory movements and the heart's action are increased and the blood is better aërated ; the deeper inspiratory movements exercise an intermittent squeezing or gentle "massage action" on the liver and other abdominal viscera and on the abdominal blood vessels, and thus greatly favour the portal circulation and the metabolic and excretory functions of the liver. Exactly the reverse is the case when a sedentary occupation is followed in the dark, close, working-rooms of large cities. In such cases, apart from the harmful influence of the tuberculous process itself, the liver is encouraged to become inactive and fatty, just as that of the goose is in the dark damp cellar when required for a Strassburg pie.

The modern sanatorium treatment helps greatly to promote the circulation and activity of the important organs in the abdomen. By life as far as possible in the pure open air the proper aëration of the blood is maintained, and by the judicious use of hydrotherapy, muscular exercise and voluntary respiratory movements, the healthy activity of the abdominal viscera is kept up, so that the patient can make the best possible use of the food (notably the meaty food) which is given him. In this respect, too, with reference to the question of special climates for pulmonary tuberculosis, one must admit that the rarefied air of high mountain resorts may, other things being equal, exert a special effect by its action in amplifying the respiratory movements, thus indirectly influencing the abdominal circulation and the functional activity of the abdominal viscera.—*Zeitschrift für Tuberkulose und Heilstättenwesen*, *May*, 1900.

44.—DIET IN CONSUMPTION.

A few years ago French clinicians took up the subject of feeding, overfeeding in fact, and claimed for it practically specific therapeutic properties in the treatment of consumption. Professor Fuster of Montpellier obtained excellent results in a number of cases by the addition to the ordinary diet of raw meat and alcohol. By the administration of from 100 to 300 grams (3 to 10 ounces) of raw meat-pulp and 100 grams (3 ounces) of cognac, he obtained such rapid and marked improvement in his first series of cases that for a time it seemed as though he had found a specific for tuberculosis. Like so many other vaunted specifics, however, it proved a disappointment. It was demonstrated, however, that in certain cases of incipient tuberculosis, especially where patients have always been free meat-eaters and their appetite and consequently their consumption of meat had decreased, this method of treatment constitutes one of the best therapeutic measures at our command. Later Professors Debove and Dujardin Beaumetz at the University of Paris recommended forced feeding. In cases of which the patient showed repugnance of taking much more than the usual quantities of food they suggested the use of the stomach-tube, so as not to excite the patient's aversion to the food during its deglutition, as this would be apt to interfere with its digestion. Debove considered that after a period of preliminary training as much as 500 grams (over 15 ounces) of specially prepared meat-powder might be given. This is the equivalent of about four pounds of fresh meat. Besides this, however, he gave from 200 to 400 grams (6 to 12 ounces) of powdered beans or lentils, from 8 to 10 eggs, and advised very free consumption of milk. His patients increased very rapidly in weight under this regimen, as much as twenty to forty pounds in three months, and the ordinary symptoms of tuberculosis of the lungs, the fever, the night-sweats, the coughing, and the expectoration, all improved. A far smaller number of patients than might be imagined were found, at least in hospital practice, to be incapable of assimilating these heroic quantities. Relapses, however, were rather frequent, showing that the gain in strength was not a stable one. It became evident that a more gradual putting on of weight was more effectual in preventing further progress of the disease and avoidance of relapses.

The work thus overdone has not, however, been without its effect on the modern therapeusis of consumption. It has taught a lesson that has been cherished, especially at the sanatoria. Liberal diet to tempt the appetite, tonics to whet it, and the physician's prescription as to definite amounts to be taken, constitute one of the most important legs of the therapeutic tripod, fresh air, abundant food and regular life, upon which the modern successful treatment of consumption in sanatoria rests.—*A leading article in the Medical News, February* 10, 1900.

45.—EARLY RECOGNITION OF PULMONARY TUBERCULOSIS.

By S. A. Knopf, M.D.,
New York City.

[Careful attention to very slight abnormal physical signs is undoubtedly of much importance in the recognition of very early phthisis. Diminished or delayed movement of the apex is an early sign which has not always received the attention which it deserves. The remarks on agglutination apply to a subject the knowledge of which is merely in its infancy. The abstracter had the opportunity of seeing M. Courmont's tubes at the Berlin Congress on Tuberculosis last year.—E.F.T.]

We may observe feeble respiratory movements, characteristic of nearly all candidates for consumption. The glistening eye, pasty skin, the bright colour of the cheeks, may be observed. Palpation may reveal an increased vocal fremitus. But there is another symptom revealed by palpation, which is not sufficiently emphasised in our text-books. By placing the palmar surface of the two hands successively over the whole anterior region of the chest, the patient taking deep inspirations meanwhile, one can often feel the expanding portion of the lungs through the chest wall, and with a little practice differentiate the portions which are more or less involved. The motion or impulse given to the examining hand, by the inflation of the lungs during inspiration, is less in that part of the lung invaded by the tubercular process or impaired by pleuritic retraction than in the still healthy lung substance. With a little practice one can educate his hands so as to render palpation a valuable additional means for localising the beginning of a tubercular process.

To learn all that can be learned from percussion and auscultation one should first examine the anterior portion of the chest, the patient's arms being in the ordinary position and his back resting solidly against the straight back of a chair or against the wall. Then one should examine him standing, with the arms above the head, so as to be able to carefully percuss and auscultate the lateral portion of the chest along the axillary line. In order to examine the posterior portion of the thorax, it will be advantageous to direct the patient to fold his arms across his chest, placing his hands on the opposite shoulders, and bend slightly forward. Mediate percussion should be done with special care above and below the clavicle, and posteriorily in the supraspinous fossa and interscapular region, with a view to detecting possible dull areas in the apices. Immediate percussion, that is to say striking the clavicle directly with hammer or finger without a plessimeter, may help to reveal a beginning process of solidification in that region. Yet at a very early period of the disease the sound perceived through percussion may tell us little *per se* ; but the experienced percussor, if he is accustomed to use his index finger as a plessimeter, may have noticed that the elasticity of the lung substance imparted to the index finger is much less marked than in healthy subjects.

Auscultation may at a very early period give us a clue to the beginning of a tuberculous process. With my distinguished teacher, Professor Grancher of Paris, I consider the low inspiratory murmur, characterised by roughness when persistent and localised in one of the apices, one of the surest and earliest signs of pulmonary tuberculosis. Not infrequently the jerky or cog-wheel inspiratory sounds, rhythmic with the heart, are also perceived. According to Professor Potain of Paris, however, this wavy and jerky respiration is simply the respiratory murmur divided by the successive pulsation of the heart. In the opinion of this authority, it is by no means pathognomonic of pulmonary tuberculosis, but can only be considered as a sign of presumption. Potain has observed the cog-wheel or jerky respiration in narrow-chested women where there has not been the least sign of pulmonary affection. Râles of a smaller magnitude may be heard, especially after having requested the patient to cough a few times. The prolonged expiratory sound is heard when the tubercular process has been already in existence for some time, the prolongation of the sound being due to a contraction of the calibre of the finer bronchioles. To Da Costa we are indebted for having called attention to the fact that in a certain number of early cases of pulmonary tuberculosis a blowing sound in the subclavian or pulmonary artery may be heard, and that a murmur is sometimes present in the subclavian or pulmonary artery before any other physical sign is detected.

Through Roentgen's discovery of the x-rays we have one more way to discover an early pulmonary tuberculosis. But I must concur with Professor Loomis when he takes exception to the statement that the fluoroscope will replace the ear, or that one can diagnose with it lesions that can not be appreciated by physical examination. All that can be said of the x-rays up to this date, in relation to our subject, is that they may be considered an interesting means to corroborate a diagnosis made by ordinary physical examination. But the last word in radiography is not spoken, and research in this field of diagnosis should be highly encouraged.

Lastly, I wish to speak of the new process of agglutination as a means of discovering early pulmonary tuberculosis. The experiments with the pleuritic fluid drawn from a tubercular guinea-pig were a decided success. The mixture of 1 part serum to 9 of the bacilli emulsion showed the true adherent film after eighteen hours, and when agitated it broke up into thin large flakes characteristic of the positive reaction. The mixture of 1 to 20 presented the same condition, but not quite so definite. In the hanging drop—under the microscope—the 1 to 10 mixture, besides the small groups of bacilli which were originally present in the culture itself, showed numerous newly-formed loose clumps of individual bacilli. These were absolutely motionless, having lost all Brownian movements.

One part of horse serum plus 9 of the watery emulsion of bacilli appeared identical with the simple watery emulsion. On lifting these tubes the sediment broke up into grains, and no true flakes appeared in the agitated fluid. According to Courmont, this is the absolutely certain sign of a negative reaction. In the hanging drop of both these mixtures only tiny groups of bacilli, originally present in the culture, appeared; there remained many isolated single bacilli showing active Brownian movements.

From our experience thus far we can not subscribe to the claims of Arloing and Courmont, that this method is of a very great diagnostic value in the early detection of pulmonary tuberculosis; but we realise that additional experiments may modify this conclusion, and trust that further researches will continue in this interesting field. Consumption, though the most fatal and widespread of all chronic diseases, is most easily cured when discovered early and when timely and judiciously treated. But in this age of bacteriology and biology do not think that these branches of medicine, valuable as they are, constitute the only and always most reliable means of discovering a disease. Do not underestimate the importance of a thorough and scientific physical diagnosis.—*Journal of the American Medical Association*, *December* 9, 1899.

46.—TREATMENT OF PHTHISIS AT HIGH ALTITUDES.

By M. MURAT,
Of the Sanatorium at Aubrac.

The author discusses some of the so-called contra-indications in the treatment of phthisis at high altitudes (*Arch. Gén. de Méd.*, February, 1900). Advanced cachexy is usually stated to be a contra-indication. The writer considers that this is by no means the case, and he gives instances of patients arriving at the sanatorium in very advanced conditions of weakness, loss of appetite, anæmia, &c., and who did extremely well. It is at all times important to ascertain the relation of the disease as regards heredity, duration, &c., to the degree of cachexia as in some patients the cachetic condition appears early and seems to be out of proportion to the phthisis. It would appear that such cases do not promise much amelioration. In others, again, it seems to be due to excessive pulmonary suppuration. The effect of the climate of Aubrac is to reduce pus formation, and in such cases the writer reports a marvellous improvement. Under these same circumstances pyrexia cannot be considered a contra-indication, and it will probably disappear with the improved state of secretion. It is only in cases of profound cachexia, laryngeal and intestinal complication, that little result may be expected. The writer speaks highly of the treatment at Aubrac in the cases of incipient phthisis and the benefits derived by those showing a marked pre-disposition to the disease. Even the existence of extensive invasion is not considered a contra-indication by Murat, who records in the same article several instances where large cavities dried up with disappearance of adventitious signs and the patient was able to walk long distance without fatigue. Hæmopytsis, instead of being a contra-indication, is looked upon by the writer rather as an indication, and among the patients hæmoptysis is uncommon, though it may previously have been considerable. Laryngeal phthisis does not seem to do well at Aubrac, the air appearing to be rather too keen, and Murat does not recommend their being sent here. As regards emphysema, the question depends on circumstances. In many instances respiration becomes more difficult. Much depends upon the extent of the tuberculous lesions in these cases and to the co-existence of cardiac embarrassment. Cases of "florid phthisis" do not on the whole benefit much from high altitudes in the writer's opinion. There may be a slight amount of amelioration, but on the whole they make little or no progress. The acute forms of phthisis seem to do badly. Renal complications, tuberculous arthritis and rheumatism are contra-indicative, and are likely to do badly.—*Epitome*, *British Medical Journal*, *April* 28, 1900.

47.—THE GOVERNMENT (U.S.) SANATORIUM FOR CONSUMPTIVE SOLDIERS.

By EARL S. BULLOCK, M.D.,
Assistant Surgeon U.S.A., Fort Bayard, New Mexico.

[The following is included here partly to show that the United States Government recognises the importance of sanatorium treatment for its phthisical soldiers, and also on account of the rules of this sanatorium.]

A sanatorium for the treatment of officers and enlisted men of the United States Army, who are suffering from pulmonary tuberculosis, has recently been established by order of the Secretary of War at Fort Bayard, New Mexico. Although some patients in an advanced stage have been transferred from other military hospitals, so as to avoid the possibility of spreading infection there, yet this sanatorium is designed to meet the needs of those that can be benefited, rather than of hopeless cases. To this end, patients with mixed infection will be carefully separated from pure tuberculous types, and again, convalescents, those free from the bacillus, will be separated from all other patients, and all inmates of the hospital will be obliged to conform to the set of printed rules of which a copy is here given.

Instructions for Patients.—Consumption is an infectious disease: it is caused by a germ which is contained in the sputum. For this reason it is necessary that the greatest care be exercised in the disposal of expectoration. Should it be allowed to dry and in the form of dust float around in the air, millions of these germs would be liberated, a grave danger not only to those free from the disease, but also to you, oftentimes undoing in one day the good that has been accomplished by months of care. Expectorate *only* in your spitcup, *never* upon the floor, in the bath-tubs, sinks, or closets, or in your pocket-handkerchiefs. Carry your spitcup with you everywhere, expectorate into it carefully, avoid having to wipe sputum from your lips, whiskers, or from the edges or side of your cup. The only safe method of disposal of sputum is by burning it. Your cups should be burned as soon as half filled, and never use one cup for more than twenty-four hours. The metal frames should be washed often with carbolic solution. Should you by accident expectorate upon the floor or bedclothes or spill your cup, tell your nurse at once, and he will use the necessary disinfectants. Fresh air and sunlight, rest and good food, are necessary. Stay out-doors as much as possible, go to bed early, take moderate exercise, eat your meals slowly and masticate your food thoroughly. Do not help yourself to food from dishes with your own fork or spoon; use those provided for that purpose. Try to refrain from coughing at meal times; with care you can do much to prevent it. The use of stimulants and of cigarettes is forbidden, smoking and chewing tobacco, in moderation, is permitted when out doors or in the recreation-room. Whiskers and moustaches, if worn, must be closely trimmed.

Patients not bedridden will observe the following rules:—(1) They will occupy their quarters only from 7.30 p.m. until 8 a.m. (2) They must make their own beds and arrange their personal belongings neatly. (3) They must remain out-doors at least eight hours daily. (4) They will not visit in quarters. (5) They will bathe at least once a week. (6) They will not, without special permission, go south of the Administration building. (7) Meals will be served only in the mess-room.

D. M. Appel,
Major and Surgeon, U. S. Army,
Commanding Hospital.

From a sanatorium point of view, the advantages of the climate are briefly as follows :—Sufficient altitude (6,040 ft.) to act as a general, and especially as a blood tonic, vastly increasing the number of red corpuscles and amount of hæmoglobin. The dryness not only aids altitude in providing a relatively aseptic atmosphere, but it has in itself a distinctly beneficial effect in pulmonary tuberculosis which, though empiric, is none the less well established. The small rainfall and cloudless skies permit daily life in the open air, which is *per se* the most important *desideratum* in the management. Climatologic therapeutics has not yet reached an epoch which makes it possible to successfully select the particular climates, altitudes, &c., that will give the maximum benefit to any patient. Only trial will demonstrate the individual's adaptability to a climate.—*Medical News, December* 23, 1899.

DISEASES OF THE ORGANS OF DIGESTION.

48.—A SIMPLE METHOD FOR THE QUANTITATIVE ANALYSIS OF THE GASTRIC CONTENTS.

By Henry F. Hewes, M.D.,

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and at the Carney Hospital, Boston ;
Assistant in Chemistry at the Harvard Medical School.

[Dr. H. F. Hewes thus describes his modified Töpfer's method :]

I. *Total free HCl.*—Measure off five cubic centimetres of contents after shaking. To this five cubic centimetres of the unfiltered contents in a test tube add a few drops of Töpfer's reagent (a one-half per cent. alcoholic solution of dimethyl-amido-azo-benzol). If free hydrochloric acid is present, the mixture will assume a carmine-red colour. As a rule, where the acid is present, one drop will give the clear red colour. In some cases, however, the addition of three or four drops is necessary. To this red mixture a decinormal solution of sodic hydrate is added by titration until the red colour gives place to an orange or bright yellow colour. The number of cubic centimetres of the soda solution necessary to bring about this result are then read off. By multiplying this number by .00365 gramme the amount of free hydrochloric acid in the five cubic centimetres of contents is obtained, and from this record the grammes of free HCl per hundred (per cent) or per thousand may be reckoned. As it is sometimes difficult to determine the exact point at which the red colour disappears in this titration, it is well to control this test by another more delicate test for free HCl. When enough soda has been added to leave but a very faint red colour in the mixture, a drop of the mixture should be mixed upon a white evaporating dish with a drop of saturated alcoholic solution of 00 tropeolin, and the dish warmed (not heated intensely) over a flame. As long as such a mixture gives a purple colour upon evaporation the free hydrochloric acid in the contents is not yet neutralised. When the purple colour fails the acid is neutralised. By thus depending upon the Töpfer test until near the end of the reaction and upon the tropeolin for the last steps, we obtain a very accurate quantitative estimation of the free hydrochloric acid. For rough work, for results within .01 per cent. of the accurate result, the Töpfer test suffices.

II. *Total Free Acids plus Acid Salts.*—To the same five cubic centimetre mixture of gastric contents in which the free hydrochloric acid has been neutralised continue to add the decinormal soda solution until a drop of the mixture fails to colour Congo-red paper (paper prepared by dipping filter paper into a five per cent. aqueous solution of Congo-red and drying). When the mixture fails to colour the Congo paper, all the free acids, organic and mineral, also the acid salts (acid phosphates), are neutralised. By taking the record of the soda used up to this point the quantitative estimate of the total free acids plus acid salts in the contents can be obtained in the same manner as in the estimation of the total free HCl. If in performing this Congo test the reaction point is passed, the paper is turned a brighter red than its original colour. It is thus easy to control the accuracy of this test.

III. *Total Acidity.*—To the same five cubic centimetre mixture of contents in which the free hydrochloric acid and the other free acids and acid salts have in turn been neutralised add two drops of a one per cent. alcoholic solution of phenolphthalein. Continue to add the soda solution until a deep red colour of maximum intensity is obtained. The appearance of the deep red colour indicates the presence of an alkaline reaction, that is, that the neutralisation of all the acid elements of the contents is accomplished. From the record of the soda solution used to accomplish this result we estimate the total acidity. Care must be observed in performing this last step of the estimation to develop the deepest red colour which can be obtained. As long as the top of the mixture takes a deeper colour after the addition of a drop of the soda than the rest of the mixture the end reaction has not been obtained.

This analysis gives us a qualitative test for free hydrochloric acid, and a quantitative estimation of the total free hydrochloric acid, the total free acids plus acid salts, and the total acidity. By subtracting the total free HCl (I.) from the total free acids plus salts (II.) we obtain a quantitative estimate of the total organic acids plus acid salts (IV.). By subtracting (II.) the total free acids plus acid salts from (III.) the total acidity we obtain the total combined acids (the total combined HCl in cases where free HCl is present) (V.). By adding this total combined HCl (V.) to the total free HCl (I.) we obtain the secreted hydrochloric acid (VI.).

This analysis can be accomplished in five to ten minutes. It necessitates for apparatus a burette, an evaporating dish, a lamp, a test tube, and a glass rod. The necessary reagents are (1) a decinormal soda solution ; (2) one-half per cent. alcoholic solution of dimethyl-amido-azo-benzol ; (3) Congo-red paper—filter paper soaked in a five per cent. aqueous solution of Congo-red ; (3) a one per cent. alcoholic solution of phenolphthalein ; (4) a saturated alcoholic solution of oo tropeolin. The estimations should be made twice, and the records of the tests with the second mixture of contents taken as final. For this estimation is made with an approximate idea of the results to be obtained already in mind, so that there is less waste of material in the process. The simplicity of the method admits of the employment of this quantitative analysis of the gastric contents as a routine method of diagnosis in private practice and in out-patient hospital work without undue sacrifice of time or labour.

In cases in which free hydrochloric acid is present to the Töpfer test this analysis includes, with the exception of the qualitative test for lactic acid, all the tests which are necessary in ordinary clinical work. Where the Töpfer test is absent or doubtful, the qualitative test for free HCl must be tried with oo tropeolin, Boas resorcin reagent and phloroglucin vanillin. Where a trace is discovered by one of these tests which could not be determined by the Töpfer test, the amount present is recorded as a trace, it being too small to admit of a definite quantitative determination.—*Boston Medical and Surgical Journal*, *January* 4, 1900.

49.—ON THE USES OF THE STOMACH-TUBE.

By F. Hampson Simpson, M.D., B.S., M.R.C.S.,

Honorary Physician to the St. Pancras and Northern Dispensary, &c.

[From Dr. Simpson's paper :]

The conditions in which lavage is indicated are :—

(*a*) *Evidence of Marked Motor Insufficiency* (*Retention*) *irrespective of the Size of the Stomach.*—Retention, whether it be due to pyloric obstruction or gastric myasthenia, or both, is an imperative indication for washing out the stomach. A stomach that is never empty cannot obtain that physiological rest essential to the efficient performance of its functions. In gastric myasthenia lavage not only relieves the symptoms by the removal of the stagnating and fermenting gastric contents, but places the organ in the most favourable conditions for recovery when the disease admits of cure. In organic pyloric obstruction lavage is a purely palliative proceeding, which we have to fall back upon when more rational and radical treatment by operation is not feasible. In speaking of operation, I mean one that has for its object the removal—or failing that, the circumvention—of the obstacle to the stomach emptying itself, and not an irrational proceeding like gastroplication.

(*b*) *Chronic Gastric Catarrh.*—In this disease the stomach may be irrigated with simple warm water, or with medicated solutions. When there is much excess of mucus, intragastric douching with topical applications is more effective than simple lavage.

(*c*) *Acute Fermentative Dyspepsia.*—In this condition washing out the stomach is a more prompt and rational method of treatment than by giving gastric antiseptics, &c., by the mouth. If opportunely resorted to, the attack is cut short and secondary intestinal disturbance prevented. Lavage is indicated in infants suffering from acute fermentative dyspepsia as well as in adults. Plain water should not be used, however, but a physiological solution of common salt, or a solution of sodium bicarbonate (1 per cent.).

(*d*) *In Reichmann's Disease or the Continuous form of Hyperchlorhydria.*—" The only satisfactory way of dealing with this condition is to wash out the stomach daily with alkaline water."

(*e*) *In so-called Acute Dilatation of the Stomach* (*Gastroplegia*).—This rare condition, induced by traumatic or moral shock, and possibly heat-stroke, should receive prompt treatment by lavage. If after evacuation the stomach does not contract up, but commences to refill—as in a case of Sir William Broadbent's, after a gallon of fluid had been removed from the stomach by syphonage—I would suggest, on theoretical grounds, the expediency of employing the "gastric resuscitator."

(*f*) *To Arrest Severe Hemorrhage from the Stomach.*—Although *recent* hæmatemesis is a contra-indication to the use of the stomach-tube, lavage with ice-water has been successfully employed to arrest bleeding from the stomach which other remedies had failed to control. Professor Ewald of Berlin remarks that "In desperate cases of gastric hemorrhage, in which ordinary internal remedies, such as ergot, morphine, ferric chloride, &c., do no good, I have often seen *prompt cessation of the bleeding after lavage of the stomach with ice-water.*" With regard to the above-mentioned internal remedies doing no good, I cannot say that I have ever been able to convince myself that they ever did anything else.

(*g*) *In the Vomiting of Pregnancy.*—It has been suggested by Dr. Berford (*New York Medical Journal*, September, 1899) that this condition is due to a poison, a leucomaine of the uric acid group, and that treatment should consist of thorough lavage of the stomach thrice daily with alkaline antiseptics, along with baths, massage, and open-air exercise, in addition to regulation of diet.

(*h*) *In all forms of Chronic Vomiting of Gastric Origin in Infants.*—Lavage appears to be attended by very good results in these cases; even one washing out of the stomach has been followed by cure. ("Manual of Modern Gastric Methods," p. 141.)

(*i*) *For the Prevention of Vomiting during and after the Administration of Anæsthetics.*—When the necessity for prompt surgical intervention precludes the possibility of preparing the patient for operation, if the stomach is more or less full, it should, I think, be washed out as a prophylactic measure. The vomiting likely to occur under the anæsthetic in patients who have not been duly prepared, and which may be attended by untoward results—a recent death under chloroform at a London hospital was due to vomited ingesta lodging in the air-passages—would be prevented by preliminary lavage. Retching, which is especially objectionable during and after laparatomy, operation for strangulated hernia, &c., would also be checked and lessened.—*Treatment, February* 8, 1900.

50.—GASTRIC ULCER.

By THOMAS E. SATTERTHWAITE, M.D.,

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The ordinary symptoms of ulcer in the stomach are localised pain after eating, vomiting, hæmatemesis or melæna, or both. There may be also gastric irritability. We should look for all of these symptoms of gastric ulcer; but they may not occur. There may also be the signs of the disease with which gastric ulcer is often associated. Tuberculosis may be present but have no lesion from which we can get the tubercle bacilli. Pain is a most prominent symptom of gastric ulcer. There are two places where the pain is apt to be located; one is the epigastrium, and the other is in the back—a later sign. The point of pain is usually well localised, and will vary from an area of one-half inch to one and a half inches in diameter. The painful spot in the back is usually to the left of the spine, and over the tenth, eleventh, or twelfth lumbar or first dorsal vertebra. Sometimes it is as high as the eighth vertebra. Another sign is hyperacidity of the stomach, caused perhaps by an irritation of the gastric nerves, producing an excessive secretion of hydrochloric acid. If, however, an ulcer has once formed, or there is the direct stimulus to the formation of hydrochloric acid, and if the motility of the organ is so interfered with that food is unduly retained, there will be hypersecretion of the gastric juices. And yet, on the other hand, after ulcers have become chronic, the glands may become so exhausted by hypersecretion that they will excrete a diminished amount of hydrochloric acid and pepsin, and so it happens that there may be hypo- instead of hypersecretion of the acid. As a rule, however, subacidity of hypochlorhydria or hyposecretion, whatever name is given to it, is a neurosis. The points of pain are aggravated by eating, but are present at all times in the same spot. At first it might be classed as simply epigastric distress, but it is often of a boring character, going through to the back. When the stomach is empty there is little if any actual pain, but after eating there is apt to be some immediate distress, due to the solid food producing irritation; after a couple of hours the pains will be due to the movements of the stomach and the increased acidity due to the pouring out of hydrochloric acid. If the pain does not occur within an hour after eating, the ulcer is probably either in or near the pylorus or the duodenum. Relief comes through vomiting or after the food has been expelled through the pylorus. As a rule, in gastric ulcer pain is to be expected as early as half an hour after eating. Thirst is another symptom. Vomiting is frequent, but may be absent. Hæmatemesis is usually the first sign of gastric ulcer, but it is very inconstant, occurring in from twenty-five per cent. to eighty-five per cent. of the cases. The amount of blood vomited varies ; it does not depend on the size of the ulcer but on the size of the vessel. When there is hæmatemesis, there is pretty sure to be melæna later, but when the ulcer is near the pylorus we may have melæna without hæmatemesis. Flatulence is a symptom that is not uncommon. It is due to some one of the causes connected with indigestion. It is one of the exciting causes of perforation. If the vomited matter has the appearance of coffee grounds, the indications are that the ulcer is small. If much blood is lost the ulcer is probably large, but we should not be deceived; a small amount may be vomited and a larger amount pass of by the bowels. The cause of the hemorrhage is apt to be some unusual exertion. The appetite is usually good during the early history of the disease. The bowels are apt to be constipated. Diarrhœa is not a common symptom. There may be merely the symptoms of dyspepsia, but chronic catarrhal gastritis usually accompanies the gastric ulcer.—*Medical Record*, *March* 24, 1900.

51.—TWO CASES OF GASTRIC ULCER IN WHICH SYMPTOMS AROSE SUGGESTING PERFORATION OF THE STOMACH.

By J. N. Marshall, M.D.,
Rothesay.

[From Dr. Marshall's paper :]

The two following cases seem worth recording, chiefly on account of the attention which is at present being given to the surgical treatment of perforation of the stomach. There is no doubt that many of those cases are not difficult of diagnosis, cases in which there is marked collapse, and where there is probably an escape of a large quantity of the stomach contents into the peritoneal cavity. For such there seems to be no hope except in surgical interference ; but in other cases the symptoms, though acute and well marked, are not so severe, and in those it must often be a matter of doubt whether or not perforation has really occurred, and if after careful consideration it is decided that there has been perforation, there is the further consideration as to whether it is possible that the patient might not recover without operation. The records of a good many cases seem to show that the patient may and often does recover from this serious condition if the stomach has been empty at the time that the perforation occurred, or if as the result of previous illness adhesions are present which have limited the escape of the stomach contents.

For about two years a woman, aged 32, had suffered from pain shortly after taking food, and occasionally vomiting. On two occasions she had vomited blood, and on several occasions she had passed dark matter which had been recognised as blood. Two days after starting work she turned ill. On June 24 she felt in her usual health, and had nothing unusual for food except some buttermilk. At 2 a.m. on June 25 she was awakened by sharp pain in the abdomen. It subsided after a little time, but when she rose some hours later to begin her work it returned, and this time was very severe. I saw her about 10 a.m. on June 25, and found her evidently in great pain. Her face was pale and pinched. The pulse was good, quite full, and numbered about 90. Temperature was normal. There was a feeling of sickness, and mouthfuls of greenish liquid were occasionally ejected. The abdomen was neither hard nor tender. A small dose of morphia was given by the mouth, and poultices were applied to the abdomen. At 9 p.m. the pain was somewhat less violent, but the pulse had now a running character, though it was not by any means collapsed. It numbered 100; temperature was 101 deg. The abdomen felt distinctly hard all over, and it was tender to pressure. The bowels had not acted again, but flatus was passed. Sickness and vomiting continued. Nothing had been swallowed except the dose of morphia, and this was repeated at night. On June 26 temperature was 101 deg.; pulse 100, and still of a running character. The abdomen was still hard, and there was marked tenderness over the epigastrium. There was slight sickness, very small mouthfuls coming up. Rectal feeding was commenced, nutrient suppositories and injections of egg and milk being given alternately every three hours. Minute pieces of ice were given to relieve the thirst, which was great. June 27.—Temperature, 100 deg.; pulse, 100. The abdomen was somewhat distended and tympanitic. Pain was present, but was not severe. Vomiting had ceased, but mouthfuls of flatus came up with a sort of hiccup. The bowel was washed out with warm water, liquid fæces coming away. One dose of morphia was given to-day. [From this time the patient steadily improved.]

In this case it seems tolerably clear that there was a gastric ulcer, and that there was a slight attack of peritonitis which began abruptly. Whether there was actual perforation or whether there was only leakage it would be difficult to say.

In the next case the symptoms were more marked at the onset, and the course which the disease pursued seemed to point pretty clearly to there having been perforation.

A domestic servant, aged 22, had suffered from pain and vomiting more or less constantly, and hæmatemesis to the extent of a teacupful of blood on three or four occasions. For the last six months she had lived mostly on milk, and she had not vomited blood for at least two months. On July 3 she had some milk food for dinner at two o'clock, and about two hours after she was seized with violent pain in the abdomen. She had also sickness and vomiting of greenish-coloured fluid. When I saw her about four hours later she was pale, and suffering so much as to be hardly able to speak coherently. The muscles of the abdomen were rigid, and there was extreme tenderness all over the abdomen. Pulse was full, numbered 100, and was of good quality. Temperature was normal. Nothing had been given her to swallow. I now ordered her 12 minims liq. morphia, to be repeated at intervals if the pain was not relieved, and poultices were applied to the abdomen. On the following day (July 4) there was no improvement. Pain was severe in the abdomen, and was also complained of in the neck and left shoulder. Sickness and vomiting continued. Face was chalky pale. Pulse was small, numbered 120, and had now a running character. Temperature was 100 deg. The bowels moved spontaneously during the night. Abdomen was hard and tender, but not swollen. The liver dulness could not be distinctly made out in the nipple line. Morphia was given hypodermically, and rectal feeding was begun. July 5.—Pulse to-day is 106, and is somewhat fuller. Morning temperature is 101·4 deg. ; evening, 102 deg. Abdomen is very hard and tender, and is distinctly swollen and tympanitic. It is absolutely motionless in respiration. Pain is still severe, and is only partially relieved by one-sixth of a grain of morphia by hypodermic injection morning and night. July 6.—Pulse is rather better, and numbers 104. Morning temperature, 99·4 deg. ; evening, 100 deg. There is now a diffused dusky flush over the face. Pain is still severe. There was only slight vomiting to-day. The abdomen is now globular in shape, tight as a drum, and very tender. Urine is passed in extremely small quantity. [The patient then improved a little until July 15.] July 16.—This morning the patient looks very ill. The face has become pale and sunk. Temperature is 104 deg. ; pulse, 134 ; respiration, 48. There is not much acute pain, but there is a feeling of great prostration. No hardness or resistance can be made out in the abdomen, and no pleuritic friction can be discovered at the front of the chest. There is no cough, but the breathing is hurried and difficult. Milk has been taken in small quantity without causing sickness or pain. Brandy was ordered in teaspoonful doses. July 17.—To-day patient has somewhat recovered from the alarming condition of collapse she was in yesterday, but there is still dull pain and distress over the lower part of the thorax. Temperature, 102 deg. ; pulse, 120 ; respiration, 40. July 19.—Patient was removed to the Cottage Hospital yesterday on a stretcher. To-day the back was examined by turning her first to the right side and then to the left. While she is able now to lie with comparative comfort on her back, the position on one side or the other induces severe dyspnœa and cough ; in fact, she became so evidently distressed that she had almost at once to be turned on her back again. The examination revealed the following :— Percussion over the left back is clear tympanitic, so tympanitic as to suggest the presence of air in the pleural cavity. The breath sound is feeble, and is tubular rather than amphoric, and there are râles both moist and dry. On the right side the percussion is dull as compared with the left, but it is probably not far from natural. Breath sound here is vesicular, and there are some slight wheezing râles. There is no cough, except when patient is moved, and then there is cough but no expectoration. The abdomen seems natural, and there is much less tenderness about the epigastrium. Temperature, 102 deg. ; pulse, 104 ; respiration, 28. Peptonised milk is taken every two hours in small quantity, without pain or discomfort. The bowels move naturally, and with less pain than formerly. [The patient then steadily improved, and by August 10 was up.]

In this case the symptoms pointing to gastric ulcer were of many years' duration, and there were frequent illnesses, sometimes accompanied by abdominal pain, sometimes by vomiting of blood. It is more than probable that there were adhesions uniting the stomach to neighbouring organs. The sudden abdominal pain and succeeding severe attack of peritonitis could hardly have been due to anything but a perforation of the stomach, limited in its gravity, perhaps, by the small escape of matter from the stomach, and perhaps by the fact that the peritoneal cavity had been invaded in a similar manner, though slighter degree, before. The involvement of the pleural cavity, ushered in by severe dyspnœa, prostration, and high temperature, was probably due to the bursting of an abscess through the diaphragm. There was evidently pneumothorax on the left side, and though this was followed by pleuritis there was little effusion, and what there was seemed to have become absorbed.

The principal points attended to in the treatment of these two cases were :—(1) The keeping of the patient absolutely still in bed ; (2) the withholding of all food by the mouth ; (3) rectal feeding carried out every three hours ; (4) small doses of morphia to relieve pain.

Among the numerous records of cases of perforation of the stomach, there appear to be quite a number in which recovery took place. Nearly all of these have one point in common, viz., that no food had been taken for some time before the perforation occurred. Thus Frazer, in *The Lancet* of 1861, reports two cases which recovered ; but both died from second attacks after enjoying a period of good health. Post-mortem examination in both cases showed the previous diagnosis to have been correct. It is interesting to note that in one of these cases pain in the shoulder was complained of, and in the other that the occurrence of menstruation was coincident with marked improvement in the symptoms, as it was in one of my cases. Hall Redwood, in *The Lancet* of 1871, reports two cases, one of which recovered. Here food had been taken immediately before the perforation, but it had all been vomited. A relapse occurred after taking milk on the third day, but recovery ultimately ensued. Ross (*Lancet*, 1871) reports one case of recovery. No food had been taken for twelve hours before the symptoms began. Two symptoms noted here were pain in the shoulder and suppression of urine.—*Glasgow Medical Journal*, *February*, 1900.

52.—PERIGASTRIC AND PERIDUODENAL ABSCESS.

By W. SOLTAU FENWICK, M.D., M.R.C.P.,
Physician to the Evelina Hospital for Sick Children, &c.

[From Dr. Soltau Fenwick's paper :]

When a patient who has suffered for some time from the symptoms of gastric ulcer is suddenly attacked by pain in the epigastrium and collapse, followed by tenderness over the upper part of the abdomen and fever, perforation of the stomach with localised peritonitis must be suspected. This becomes a certainty if, in addition to these signs, there is distension in the left hypochondrium, hyper-resonance or a bell-knot over the front chest as far as the fourth rib, with tilting up of the apex of the heart, paralysis of the diaphragm, and signs of compression of the base of the lung. When, however, there is no history of a previous gastric disorder, and a total absence of pain and physical signs in the abdomen, the diagnosis of perigastric abscess may be impossible. In the early stages of the complaint secondary inflammation of the thoracic organs is very apt to divert attention from the primary disease, and several instances have been recorded in which the symptoms were erroneously ascribed to the presence of pleurisy, pneumonia, or pericarditis. In all such cases, however, it may be remarked that the patient appears to be more profoundly ill than the physical signs seem to warrant, and that he often exhibits the pinched and septic appearance which is so characteristic of peritonitis. It is also noteworthy that the signs of the thoracic complication differ in several respects from those which accompany the usual forms of inflammation of the pleura or lung. Thus in every instance the percussion note over the front of the chest is tympanitic, the apex of the heart is pushed upwards or towards the affected side, while the signs of pleurisy or pneumonia are often confined to the back of the lung. It is also to be observed that there is marked rigidity of the abdomen, with some degree of swelling of the epigastrium and left hypochondrium, and great tenderness upon pressure.

The diagnosis of subphrenic suppuration from empyema can usually be made by attention to the following points :—In the former complaint the heart is pushed upwards, there is resonance in front and dulness behind, the *bruit d'airain* can often be obtained, the respiratory sounds are audible over the back of the chest, and tactile fremitus may be increased. In empyema, on the other hand, there is dulness on percussion both before and behind, the apex of the heart is displaced to the opposite side, and the breath sounds, vocal resonance, and tactile fremitus are absent over the dull area. When the subphrenic abscess is accompanied by effusion into the pleura, the diagnosis is rendered much more difficult, especially if the introduction of a needle has shown the existence of pus. In this condition, however, it may be observed that the outflow of the pus is accelerated by inspiration, owing to the compression of the sac by the downward movement of the diaphragm, while the reverse is the case in ordinary empyema. In a few instances the disease has been mistaken for simple pericarditis, owing to the existence of a pericardial friction sound. As a rule, however, the tympanitic resonance over the front of the chest, with deficient movement of the base, and the swelling and tenderness of the epigastrium, are sufficient to indicate the co-existence of subphrenic mischief.

When the cavity is large and contains both gas and pus, it is very apt to be confused with pyo-pneumothorax. In the last-named disease, however, there is usually a history of cough, dyspnœa, hæmoptysis, and of other symptoms indicative of pulmonary disease; whilst in perigastric abscess the patient has previously complained of pain after food, or dyspepsia. In pyo-pneumothorax the whole of the affected side is enlarged, the intercostal spaces are widened, and the movement of the ribs is annulled. In subphrenic abscess, only the lower part of the chest is distended and motionless, while the upper portion moves with respiration. In pyo-pneumothorax the heart is pushed towards the opposite side; there is hyper-resonance over the upper part of the chest, with dulness at the base, which varies with the position of the body; while the respiratory sounds are either absent altogether, or amphoric breathing can be heard over the resonant area. In subphrenic abscess the heart is pushed upwards; there is tympanitic resonance over the front of the chest as far as the third or fourth rib, and posteriorly the note is dull in any position the patient may assume; the breath sounds are normal over the upper part of the chest, deficient or slightly tubular over the posterior base; while, anteriorly, amphoric breathing can often be heard as far down as the level of the umbilicus. In both diseases the *bruit d'airain*, the succussion sound and metallic tinkling, may be obtained, but in perigastric abscess they are audible over the upper part of the abdomen as well as over the chest.

When perforation of an ulcer near the pylorus gives rise to gradual extravasation of the gastric contents, the acute pain in the epigastrium, with vomiting and fever, are apt to be mistaken for biliary colic. The latter affection, however, is far more common in women than in men, while the converse is observed in the gastric complaint. The fever in subphrenic abscess continues after the immediate symptoms have passed away, the pain is constant, jaundice is usually absent, and the signs of thoracic complications soon make their appearance. It must be remembered, however, that suppuration around the gall bladder is not an uncommon cause of subphrenic abscess, but in such cases the sac contains no gas. Osler has recorded an instance of perinephritic abscess which perforated the colon, and gave rise to a gas-containing cavity beneath the diaphragm. When a perigastric abscess devoid of gas has formed a palpable tumour, it may be mistaken for a hydatid cyst in a state of suppuration. A perigastric abscess may also be mistaken for an hepatic abscess.

Treatment.—As soon as the existence of the abscess can be determined, the cavity should be opened and drained; for every day that the operation is postponed increases the risk of secondary inflammation of the thoracic viscera and perforation of the diaphragm. The abscess is most conveniently opened in the left hypochondrium, care being taken not to disturb the adhesions between the stomach and the abdominal wall, which prevent extravasation into the general cavity of the peritoneum. When the pus is situated in contact with the diaphragm, a counter-opening may be made between the ribs behind, in order to secure free drainage.—*Edinburgh Medical Journal, April*, 1900.

53.—SOME CASES OF ATONIC DILATATION OF THE STOMACH.

By JOHN H. MUSSER, M.D.,
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and
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Instructor in Clinical Medicine, University of Pennsylvania.

[The details of the eight cases and some other parts are omitted:]

Diagnosis.—In establishing a diagnosis of motor insufficiency the following signs are of most value:—(1) The presence of undigested food and fluid in the stomach fasting over night.

The stomach is never entirely empty, as was the case in all but one of our series. This symptom is recognised by all authors to denote a decided lack of motor power. The rule laid down by Riegel in this connection is that when food and fluids are found seven hours after a meal the stomach is lacking in motor power. (2) The manner of inflow and outflow of water when the stomach-tube is used is characteristic. The water flows in with great ease, causing a whirlpool in the funnel, and was removed with great difficulty. The rapidity with which the water enters and the difficulty with which the contents of the stomach are removed appear to us to be an evidence of weakness in the gastric muscle. In enlargement of the stomach due to obstruction of the pylorus the gastric contents can be expressed with more or less ease. Water flows in slowly and flows out with great readiness. This is due to the hypertrophy of the muscle-wall of the stomach caused by its efforts to overcome an obstruction at the pylorus. On the other hand, if the walls of the stomach are relaxed from inherent weakness, then water flows in readily, the contents cannot be expressed, and it is difficult to enter the stomach entirely by siphonage. (3) Inspection of the abdomen--a point upon which Osler and Allbutt lay much stress—has been, in our experience, a sign of somewhat negative value in cases of dilatation from atony. It is possible that they refer more especially to cases of dilatation from obstruction when they speak of marked prominence in the right upper quadrant of the abdomen. All of our series, in which there was no gastroptosis, showed a slight protrusion in this region ; and one case—in which there was considerable gastroptosis—showed a slight flattening in the epigastrium, with some protrusion at the level of the umbilicus. (4) In none of our series were peristaltic waves seen through the abdominal wall, nor could they be invoked by stimulation. This is another point in favour of the view that the dilatation was due to weakness of the gastric muscle. In cases in which the stomach enlarges by reason of obstruction in the pyloric end peristaltic movements are very frequently observed. This is explained by considering the fact that the gastric muscle in cases of dilatation from obstruction is much stronger and more active than in cases of dilatation from atony. (5) Riegel and Allbutt lay stress upon the fact that in atonic conditions of the stomach-wall palpation may throw considerable light upon the condition of the stomach. The walls of the stomach in such cases, as felt through the abdominal wall, are relaxed and flabby. To obtain this sign, however, the abdominal parietes must be exceedingly thin and relaxed—a condition that was not present in any of our cases, and, consequently, we could not consider it of much value.

(6) Evidences of fermentative processes in the stomach were almost invariably present. These were eructations of gas or bitter material, muscular weakness, lack of mental activity, and other signs of autointoxication. There were usually insomnia, inability to work, and diminished power of concentration. Some muscular pain and twitching were present in all of our cases. One case had an attack of muscular spasm that might be considered tetanoid, although the symptoms were not entirely characteristic. It always occurred during lavage. In other cases no symptoms of tetany were observed, as evidenced by our failure to obtain any disturbance in stimulating the facial nerve or to get Trousseau's sign. (7) The urine was almost always concentrated and small in amount. The fact that water is not absorbed by the stomach-wall would seem to make the scantiness of the urinary secretion a sign of value in making the diagnosis of motor insufficiency, and is so recognised by the principal authorities.

In all of our cases the appetite was good. Thirst was moderate, and the bowels usually constipated. In determining the size and position of the stomach, we consider inflation with air through the stomach-tube by means of an ordinary Davidson syringe to be the easiest and most reliable method. While we recognise the value of Dehio's procedure of causing the patient to drink measured quantities of water, and percussing the lower border of the stomach before and after, we think this method has the serious objection that by its use the position of the lesser curvature cannot be definitely determined. Moreover, its only advantage in the determination of the position of the greater curvature is that it does away with the necessity of passing the stomach-tube. The amount of water that can be passed into the stomach may also be looked upon as a sign of value in determining the existence of dilatation, but it cannot be considered absolutely reliable. The maximum capacity of a normal stomach, which is placed at 1,500 c.c. by Ewald and 1,680 c.c. by Ziemssen, has been shown by Pepper and Stengel to be in some cases as high as 2,600 c.c. The mental attitude of the patient seems to be a considerable factor in determining the capacity of the stomach by this method, and some will complain of fulness before the amount of water poured through the tube reaches a quantity at all commensurate with the degree of dilatation that inflation with air shows to be present. It must be considered, too, that the stomach, about to be filled with water, may contain considerable gas, the result of fermentation, which cannot find an outlet along the stomach-tube or through the pylorus. This may cause considerable distension before the water enters, and, naturally, the amount of water required to produce a sense of fulness would be much too small to indicate correctly the capacity of the stomach. Six cases held at different times quantities of water varying from two to four litres, and this must be considered an evidence of increased capacity. On the other hand, another case could take but 1,000 c.c. without discomfort, although there seemed to be some dilatation, as shown by inflation, and the signs of motor insufficiency were well marked. The gastric secretion was not disturbed to a marked degree in any of our cases. In none was there hyperacidity, and free hydrochloric acid was found in all at some time while under observation. Lactic acid was present occasionally in one case, but hydrochloric acid was usually present as well.

One of the most comprehensive classifications of the varieties of this condition is that given by Hemmeter, based upon the work of Riegel and Boas. It is as follows: First, simple gastric atony or motor insufficiency without dilatation. Second, atonic dilatation due to relaxation of the gastric walls without pyloric stenosis. Third, secondary dilatation due to pyloric stenosis. But to classify the cases of dilatation into those of dilatation from atony, and dilatation from obstruction, as indicated by Pepper and Stengel, seems all-sufficient. From the study of the general symptoms, and of the evidence of the size and position of the stomach obtained by inflation, we consider that all of our cases are to be placed under the second heading of Hemmeter's classification or under the first heading of Pepper and Stengel. In one case there was also some gastroptosis. In several cases the occasional absence of hydrochloric acid appears to indicate a considerable amount of chronic gastritis that probably antedated the motor insufficiency.

The differential diagnosis does not seem to be difficult. It is necessary to exclude pyloric obstruction from malignant disease, from scar formation due to ulcer, or from spasmodic contraction and duodenal stenosis. The grounds upon which this diagnosis was based are as follows: (1) The absence of a history of gastric ulcer and hemorrhage from the stomach. (2) The age of all our cases, being too young for cancer. (3) The absence of any sign of peristaltic action in the stomach-wall as seen or felt through the abdominal walls, denoting a weakness of muscle and not the usual hypertrophy seen in the early stages of pyloric obstruction. (4) The rapid inflow of the water through the stomach-tube, and the difficulty of removal of the stomach-contents, showing lack of power in the stomach-wall. (5) The absence of any sign of tumour. (6) The absence of bile in the stomach contents, indicating duodenal stenosis. (7) The presence of hydrochloric acid in all the cases at some period of observation. The question of the existence of congenitally large stomach, or megalogastria, must also be considered. However, the symptoms of motor insufficiency were so decided that it must be assumed that the enlargement in every case was due to dilatation.

[As regards etiology the authors thus summarise :] It may be inferred from the somewhat small number of cases just reported that the condition is not uncommon in students. An analysis of the etiological factors is as follows : (*a*) Myasthenia caused by chronic gastritis from the abuse of alcohol and tobacco, four cases ; (*b*) myasthenia from deficient innervation, two cases ; (*c*) myasthenia, probably of congenital origin, one case ; (*d*) myasthenia occurring in the course of acute disease, one case.—*American Journal of Medical Sciences*, *February*, 1900.

54.—CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS.

By Edmund Cautley, M.D.,

Physician to the Belgrave Hospital for Children, &c.

Characteristic symptoms and physical signs.—(1) *Vomiting.*—At first this may only occur at fairly long intervals,—once a day, for instance, a considerable quantity of food being pumped up when the stomach has become over-distended. Gradually it becomes more and more frequent, several times a day. It is persistent and very characteristic. A large drink is invariably rejected almost immediately, but small meals may be retained a considerable time, after which several are vomited at once. In the first of my cases on one occasion there was no vomiting for forty-eight hours, but the amount of food taken by the child was not enough for the maintenance of nutrition ; the child lost weight, and its temperature was constantly subnormal. In the later stages vomiting occurs on the administration of the smallest quantities of food. At first the vomiting may be mistaken for the simple regurgitation of food so common in infants. Later on such an error cannot be made if the child is under skilled observation. The act is so much more forcible, more like the vomiting of older children, and it apparently causes a very definite amount of pain. Nevertheless the infant is most comfortable when the stomach is empty. The nature of the food does not usually influence the vomiting. It depends mainly on the amount. To a certain extent soluble foods, such as saccharine solutions, and pre-digested foods such as peptonised milk, are kept down better than ordinary milk. Thus in my first case I found that peptonised milk was retained best, at any rate for a period of two days. Gran found in one case that thin farinaceous fluids were retained better, and were more perfectly digested than milk, probably for the simple reason that the latter is a much more complicated fluid. The vomited matter consists at first entirely of the food given, more or less changed by the action of the gastric juice. It is consequently composed of sour coagulated milk, this being the common diet in infancy. Frequently, especially in the latter stages of the illness, there is a considerable quantity of mucus mixed with it. There is no bile in the vomit. This is a very important fact, for it indicates that the seat of obstruction is above the entrance of the common bile-duct into the duodenum. If the stomach be washed out and a test feed inserted, it will be found possible to recover the whole or a greater part of the feed in three or four hours' time. Gran made some interesting observations (loc. cit.) under such circumstances. This is a valuable test of the presence of pyloric obstruction, for it is generally accepted that the stomach of infants is emptied in about two hours' time.

(2) *The bowels.*—Constipation, though a common symptom, is not as invariably present as would be expected.

(3) *The tongue.*—The character of the tongue varies according to the absence or presence of secondary gastric catarrh.

(4) *The abdomen.*—On inspection there are no signs of intestinal obstruction. The abdomen is flat and thin. There may be a distinct swelling in the epigastrium and the usual signs of a dilated stomach. On the other hand, it must be remembered that vomiting takes place with such great ease in infants that there may be no very definite increase in the size of the stomach. A dilated stomach may also occur in conditions unconnected with pyloric obstruction. It may be possible to demonstrate the presence of a tumour in the region of the pylorus. Finkelstein demonstrated an enlarged hard pylorus, and Thomson found a hard moveable tumour in the epigastric region during life.

(5) *General condition.*—There are all the signs of starvation. The child is very wasted, and continues wasting. The surface of the body is cold, and the temperature is subnormal. The pulse is frequent, small, and weak. The child lies in a condition of lethargy, with half-open eyes, and takes no interest in its surroundings. It occasionally cries from pain, and rouses a little to vomit. Food is not taken with avidity, and is often refused.

Morbid anatomy.—The stomach generally presents more or less dilatation, sometimes extreme, in which case its walls are thinned. The pylorus is represented by a very definite tumour, which has been described as an "intermediate piece," a "cylindrical swelling," and as a "sausage-shaped tumour." It varies a little in size, but may be taken roughly as about the size of the last joint of the little finger, and about an inch long. On external examination with the fingers the limits of the tumour can be definitely fixed both on the duodenal and the gastric side: to the touch it ends more abruptly on the duodenal side, but there is also a very distinct limit to it on the gastric side. It is very firm and hard. If the duodenum is laid open and the pylorus looked at from that aspect, it resembles the os uteri in having a small central orifice, apparently occluded, and a thick, smooth, ring-like surrounding wall, and it projects into the duodenum in much the same manner as the os uteri projects into the vagina. To the naked eye the occlusion of the lumen is complete in some cases, and it is not possible to squeeze the fluid contents of the stomach through it. Even in these instances a fine probe can be passed through the whole length of the canal. This occlusion of the lumen is due to the contraction of the hypertrophied muscular tissue forming its wall, and is assisted by the thickening of the mucous membrane, which is thrown into one or more longitudinal ridge-like folds extending the whole length of the thickening.

Diagnosis and prognosis.—The diagnosis depends on the characteristic vomiting, the absence of bile from the vomit, the presence of constipation, a history of the occurrence and persistence of the symptoms without definite cause and in spite of treatment, and finally in the presence of a cylindrical moveable tumour in the region of the pylorus. The prognosis is necessarily bad, especially if the tumour is large enough to be felt. In the slighter instances of this affection it is reasonable to suppose that the symptoms may not be of much moment, and may be limited to dyspepsia with an occasional attack of vomiting. It is quite possible that such cases do exist, and that they terminate in later life from dilatation of the stomach, hypertrophic stenosis of the pylorus being found post mortem.

Treatment.—If the tumour can be felt, and an accurate diagnosis thus arrived at, the most rational treatment consists in operative measures. Three courses would be open to the surgeon. The pylorus might be dilated, or it might be excised, or a communication might be made between the stomach and the small intestine. The last method would probably be the most satisfactory. Apart from surgical treatment, only palliative measures are available. Drugs are useless to relieve the vomiting. Lavage of the stomach is of temporary benefit by washing out mucus and decomposing food, thus allowing the child a better chance of absorbing some of its next meal. Small quantities of food should be given at a time, and the food should be pre-digested and of simple composition. Not much can be expected from these measures, for in infants the stomach has not a capacity for the digestion or absorption of more than a small amount. Schwyzer kept his patient alive for a fortnight by rectal feeding.—*London Medico-Chirurgical Transactions*, vol. 82, p. 41.

55.—A CASE OF GASTRIC TETANY.

By Ralph C. Larrabee, M.D.,
Boston.

[Genuine gastric tetany, at any rate when associated with gastric dilatation, is generally looked upon as of very serious import. It is possible that slighter attacks may occur and pass off almost unobserved ; at least such cases have been referred to in recent years. As Dr. Larrabee says, gastric tetany has also been described in association with acute gastric affections.—See *Retrospect*, 1898, vol. 118, p. 254.]

The patient was a married woman, aged twenty-six. Her family history was negative. Her habits were good and her past history negative, except that she has always been a hearty and careless eater, and several years ago she had a severe attack of "indigestion." It followed over-eating, but was not at all like the illness here reported. Otherwise she has always been unusually free from gastric symptoms. The present attack began in the forenoon of April 30, 1899. The night before she had eaten only a light supper and in the morning was perfectly well. She had for breakfast only oatmeal and milk. Later in the forenoon she ate some maple sugar and a banana. Soon after she had a headache increasing in severity, but she was able to eat a large dinner consisting of the following remarkable assortment: Roast lamb, potato, lettuce, cucumbers (with oil, vinegar, pepper, and salt), rhubarb pie, banana and milk ! After dinner she took a Seidlitz powder, and repeated it about an hour later. Headache and nausea soon compelled her to go to bed. There was no vomiting and no pain in the abdomen or elsewhere. Two hours after eating she tried to undress but fainted while doing so. Her husband carried her back to bed and she soon regained consciousness. Then she began to have spasmodic contractions of the arms. The elbows and wrists were strongly flexed. The fingers were extended at the phalangeal joints and flexed at the metacarpo-phalangeal joints. The feet were not affected. There were prickling sensations in the forearms and hands, and severe pain. The cramps were intermittent, and lasted in all about twenty minutes. I saw her about an hour after the spasms had subsided. She had had in the meantime a large, spontaneous evacuation of the bowels, not containing blood, mucus, or undigested food, and not foul. She was complaining of nausea and very severe headache. She was much exhausted and pale. Her pulse was fairly good and her temperature normal. The chest was normal. The abdomen showed nothing abnormal except slight tenderness in the epigastrium. On making pressure over the brachial artery and its accompanying nerves of the left arm there was a return of the pain and prickling sensations, followed by contractions of the forearm and hand, the position being perfectly characteristic of tetany—Trousseau's sign. After omitting the pressure, pain and spasms rapidly subsided. Chvostek's sign was absent. The patient was not at all hysterical. The woman was encouraged to vomit, which she soon did. No emetic was given. She got rid of about a quart of greenish material, not containing undigested food or mucus, and having very little odour. Headache was at once relieved. She also received four grains of calomel and twenty grains of potassium bromide. The patient was up and about within twenty-four hours, and on the third day she resumed her usual occupations and her usual indiscretions of diet. When I next saw her, Trousseau's sign was absent. There was no abdominal tenderness, and no evidence of gastric dilatation, except slight splashing on palpation in the epigastrium.

In nearly all of the reported cases of gastric tetany there has been chronic disease of the stomach, most frequently dilatation or pyloric disease. In many of these the symptoms have followed severe vomiting : in a few they have followed the use of the stomach tube. In the cases of this sort reported by Bouveret and Devic and by Fenwick the mortality has been about 70 per cent. In my case there was no evidence of dilatation. I did not pass a tube or inflate the stomach in any way and I think that such a procedure, in view of the outcome of many of the cases of tetany where this has been done, would have been wholly unjustifiable.

In acute conditions of the stomach tetany is much less frequent. It has followed acute indigestion and overloading the stomach in delicate and feeble people. In children with tetany the attacks are often associated with alimentary disturbance. It has been reported in cases of chronic gastric indigestion, the spasms coming on repeatedly after overloading the stomach. It is, however, at least rare in otherwise healthy adults with simple acute indigestion. In my case the cause seems to have been acute gastric indigestion, due to greatly distending the stomach with improper food, possibly aided by the gas from two Seidlitz powders.—*Boston Medical and Surgical Journal November* 2, 1899.

56.—THE CAUSE OF SUMMER DIARRHŒA.

[From a leading article in *The Medical Press and Circular*, March 28, 1900:]

The Milroy lectures of the Royal College of Physicians of London have this year been devoted to the important subject of summer diarrhœa. In the year 1898 the number of deaths in England and Wales from epidemic diarrhœa alone reached the great total of 30,077, and 31,069 in the following year; in 1898 the death-rate from the seven principal zymotic diseases was 12·6 per cent. of the total mortality, and of that amount no less than 5·4 per cent. was due to diarrhœa, while the corresponding figures for 1899 were 12 and 5·3. These facts illustrate the great extent of the problem to be solved, namely, how to prevent this preventible malady. The main features of the disease are highly characteristic and peculiar. Among them may be named its incidence upon the infantile urban populations during hot and dry summers, and its close relation to air and earth temperature curves. The Milroy lecturer, Dr. F. J. Waldo, regards the malady as due not to one but to various micro-organisms, which form an infection of a manifold and often of a mixed nature. He showed by means of an exhaustive analysis of the returns of the different counties in England and Wales that the causes of excessive diarrhœa mortality are mainly local, not, climatic, and that, although high temperature and low rainfall may be necessary factors in producing a serious outbreak, presumably they produce it only in the presence of certain other conditions. The exclusion of climatic influences as the main essential antecedents is supported by the observation that in a county temperature and rainfall may be practically the same over neighbouring areas, of which some may suffer heavily, and others lightly from epidemic diarrhœa. What, then, are the essential local conditions that excite diarrhœa? First and foremost, there can be no reasonable doubt as to the bacterial nature of the affection, whatever obscurity may surround the agency of its distribution. The late Dr. Ballard, whose classical report upon the subject was issued by the Local Government Board in 1889, attributed the disease to a hypothetical microbe, with a habitat in the upper layers of the soil. One of his most famous observations was that the summer rise of diarrhœal mortality did not commence "until the temperature recorded by the 4-foot earth thermometer has attained somewhere about 56 degs. F., no matter what may have been the temperature previously attained by the atmosphere or recorded by the 1-foot earth thermometer." It is not surprising that Ballard wanted to attach great importance to the part played by deep earth temperatures, especially when he also found that the maximum diarrhœal mortality of the year was usually observed in the week in which the temperature recorded by the 4-foot thermometer attained its mean weekly maximum. The task that lay before the Milroy lecturer was to bring a large collection of facts such as the foregoing within the four walls of a common explanation. This he has done by advancing a theory as to the causation of epidemic diarrhœa that is both simple and striking, and that appears to tally with all that is known of the malady. Briefly he regards the infective agency as a surface and air-borne pollution in the shape of town street dust, and the specific polluting agency as horse-dung. Our knowledge of the bacteriology of the human intestine and of the horse, both in health and in disease, is still in a most imperfect condition. Dr. Waldo, however, showed that a number of organisms are common to the intestine of the human and the equine animal, and that some at least of those bacteria are pathogenic. His proportion admittedly falls short of proof in our present state of knowledge, but it explains clearly enough the why and the wherefore of many of the vagaries and peculiarities of diarrhœa. The one great essential distinction between town dust and country dust lies in the enormously greater proportion of horse-dung met with in towns. As a surface and floating contamination it would be washed out of the air and away from outdoor surfaces by rain. Dust has marvellous powers of penetration and diffusion, as shown, for instance, by the way it reaches the interior of a watch, and it has free access to larders and other places where food is stored. This happens in the case of milk, which is kept, as a rule, in open vessels in the shop of the retailer, where it can be freely polluted by street dust. In this way the incidence of the disease upon infants, especially the handfed, who suffer disproportionately from the ravages of diarrhœa, is accounted for. Pollution by street dust of fruit exposed for sale explains why a child may eat plums with impunity in the country but not in the town. Dr. Waldo accepts observation as to the deep earth temperature as quite reconcileable with his own view, inasmuch as the vitality of the dust micro-organisms may be closely connected with the mean temperature of the surface on which they lie. The theory affords a key to the universal town distribution of a specific epidemic malady, and whether true or not it constitutes one of the most brilliant contributions yet made to the study of this enormously fatal disease. In the long run it cannot fail to emphasise the necessity for close attention to the sanitary state of the street environments of our towns, to the structure of our larders, and to the desirability of substituting motor for horse traction. If diarrhœa be established as a dust disease, then the difficulties that stand in the way of its future prevention will be vastly lessened.

57.—TROPICAL DIARRHŒA.

By Surgeon-General ALBERT A. GORE, C.B.,

Late Principal Medical Officer H.M. Forces in India.

[The following remarks are taken from Surgeon-General Gore's paper :]

During the period of enforced tropical residence everything that tends to lower the vital powers or nervous system should be avoided, habits should be steady, methodical, and regular ; the amount of exercise sufficient, but not in excess of the powers of the individual ; the diet moderate and not stimulating ; the number of meals not excessive, and stimulants used only in moderate quantity, and only of the best quality. The lunch should be of the very lightest description, and the dinner of very moderate dimensions, of few courses, and of the best ingredients obtainable. Bazaar supplies are, as a rule, of very poor quality and innutritious—a great drawback to Indian or other tropical life ; but this difficulty is not insurmountable if individuals will combine and keep their own poultry and sheep, and see that they are fed and well cared. All water should be carefully boiled, and milk sterilised, and the native kitchen most carefully superintended. Periodically there should be intervals of complete change and recreation away from the usual place of abode. It is well known that on the march at the proper season the European recuperates the most quickly. The system will, with these precautions, be placed in the best position to resist disease, which will also be more amenable to treatment, should it occur.

When proceeding from the plains to the hills flannel should invariably be worn next the skin, and for the early start a light overcoat, to be again put on as the evening closes. The bath should, in the higher altitudes, be a warm one, and be made use of when not heated by exercise. Cholera belts should be worn, and malarial and heated valleys in the hills avoided. The rooms should be bright and well lighted, on the most favourable side for the sun during the rains, and be well warmed, and more especially bedrooms in the early morning before rising to dress, and when retiring for the night. Should diarrhœa supervene, flannel clothing should be at once taken into use, and the diet carefully regulated. It should be milk, and nothing but milk, aided by a teaspoonful of liquor peptonis in a wineglassful of sterilised water three or four times a day. A mild castor-oil purge, 4 drachms in warm milk, guarded by a few dops of opium, may be given as a preliminary in order to remove any irritating ingesta which might be present in the bowels. The quantity of milk at first should be small—3 ounces every three hours until the dyspeptic condition and distension have subsided. It may then be increased to half a pint at a time, and gradually to 100 ounces daily. If the attack is severe the patient should be kept in bed, wearing a warm flannel pyjama suit until the fluid is increased to 6 or 7 pints. The slightest indiscretion or indulgence in solids will at once bring on the white characteristic stools, and a recurrence to the treatment *de novo.* In the stage of improvement, and when the stools have become quite solid, raw eggs in milk, a little rice, sago, or corn-flour, malted food, chicken broth at the mid-day meal, and a little weak tea or coffee added to the milk morning or evening. When bile gradually returns to the fæces, and convalescence is fairly established, and the rains are over, a little chicken or tender mutton may be made use of, and from thenceforth there should be no indiscretion in diet. There are a few cases which will not give way to this course of dietetic treatment when rigidly enforced. Of the treatment by strawberries I have no personal experience. At many hill stations they are easily obtainable when in season, and we have always made use of them without any apparent ill-effects. Grapes have proved very useful in certain forms of scorbutic dysentery when the rinds are not swallowed. The green Cabul grape is sold in small boxes, and is always most grateful to the palate, and I think harmless if not useful. The small and soft banana may also be made use of when fruit commences to be borne.

Stimulants, as a rule, are quite unnecessary, if not positively harmful, except in those cases where the anæmic symptoms are very marked, and the vital energy is exhausted. A little of the very best brandy may then be mixed with the milk with advantage.—*Dublin Journal of Medical Science*, *February*, 1900.

58.—THE SALINE TREATMENT OF DYSENTERY:

WITH NOTES OF 555 CONSECUTIVE CASES WITH SIX DEATHS.

By Major W. J. BUCHANAN, B.A., M.B., I.M.S.,
Superintendent, Central Prison, Bhagalpur, Bengal.

[From Dr. Buchanan's paper :]

In an article published in December, 1898, I gave details of 102 consecutive cases of dysentery treated by a saturated solution of sulphate of magnesium, with only one death. I now give an account of 453 more cases of the same disease, with only five deaths. This makes a total of 555 cases of dysentery treated by salines, with only six deaths, or a percentage case-mortality of only 1.08. The 453 cases here referred to I have met with in Bhagalpur. They are of all types and forms, just as they occurred from day to day.

Duration of Treatment.—The number of days in hospital for the whole of these cases was 4,894, an average of 10 days for each case. The period in hospital varied from seven to 90 days. In the vast majority of the cases of acute dysentery the period of the stay in hospital was from eight to 12 days.

Relapses.—I made a careful nominal roll of all cases admitted to hospital during a period of fifteen months in order to determine to what extent relapse occurred. I find on checking this roll that out of 453 cases there were only 69 relapses, or one in every 6.5 cases. Moreover, of these 69 relapsing cases, 47 had only two attacks during the period, 15 had three attacks, and seven had four attacks; all the rest, 384 in number, had only one attack each—a fact which of itself speaks for the efficiency of this method of treatment. I may add that the majority of these patients were long-term prisoners, and mostly under observation during the whole of this period. As regards the interval between the relapses, I find that there were nine relapses within two weeks of the discharge from hospital as apparently cured; 10 relapses within one month, 25 within two months, nine within three months, nine within four months, four within six months, and three at periods over six months. Of course it is well nigh impossible to say that the cases here called "relapses" were not sometimes reinfections, but my experience is that dysentery is essentially a relapsing disease. This is shown not only by the same patient coming back to hospital with the same complaint, but I have been able to see cases post mortem who died of other diseases in which partially healed-up ulceration remained, which must have dated from a former known attack some months previously.

Etiology.—I have very frequently found the amœba coli, yet there was not a single case of liver abscess among them.

Mode of Administration of Saline.—I now turn to the main purpose of this paper—the saline treatment of dysentery. The 102 cases I reported over a year ago were all treated with magnesium sulphate, which I found to act admirably, promptly, and efficiently. It happened that I ran short of that drug and took to sodium sulphate, and was so pleased with the results that I have continued its use ever since. The following mixture will be found satisfactory for general use:—℞ sodii sulphatis ℥j, aquæ fœniculi ad ℥iv. Of this mixture ℥ss is given three or four times a day. Purgation should be free but gentle, and when bright yellow stools without a trace of blood or mucus are passed, then the drug should be stopped, but resumed at once if blood or mucus reappear in the stools. It is usually found that after five or six stools all blood and mucus have disappeared from the stools, but in many cases they reappear in a day or so; in such cases sodium sulphate must again be given. This highly yellow "bilious" stool is characteristic of this drug. The only other drug I know which produces such stools is one, of unknown name, which was sent to me by Dr. Maberly, of Capetown. I used it in a few fever cases, and found that it produced copious yellow bile stools, to the great relief of the patients. For chronic and relapsing cases I tried olive oil for some time, but gave it up as of no special value; now I treat these cases chiefly by dieting and patience. On their first coming to hospital I gave them sodium sulphate for one, or at most two, doses, and then bismuth and soda or other intestinal antiseptics. For every exacerbation—that is, for every return of blood and mucus—a dose of sodium sulphate is given, or if scybala are passed a dose of castor oil and laudanum. Intestinal worms are not infrequent in chronic cases, and when such are seen or suspected santonin or male fern should be given. I have come to consider salines (except in the limited doses mentioned above) as harmful in cases where there is ulceration of the great intestine. In ordinary cases the acute stage under this treatment is over by the third or fourth day, and if the stools remain free from dysenteric products I give a tonic of iron or nux vomica and quassia.

Diet.—Important and useful as is the saline treatment, yet dieting is equally so. For native patients (to whom alone the above figures refer) I have used the following diet during the past fifteen months, and can strongly recommend it:—

For new acute cases I give what is known in India as *mar* and *dahi*, eight ounces of each two or three times a day. *Mar* is made as follows: 1 lb. of fine well-cleaned rice is thoroughly boiled with three pints of water, and then strained. There should then result a white starchy substance of the consistence of porridge. *Dahi* is only "tyre," and is made daily from the milk. The two are mixed together by the patient, and eaten. This is given at 10 a.m. and 5 p.m. At 7 a.m. half the quantity is also given, except when bael fruit is in season, when bael is given instead of the *mar*. All the above patients were kept on this diet for two or three days, till the stools become semi-solid, when rice milk and soup is added. Full rice diet is only given when the patient has passed solid-formed stools for one or two days.

When bael fruit is obtainable it is good to give it along with the *dahi* for the early morning meal. This is especially necessary for chronic cases, to whom also mango pickle or other antiscorbutic is also given. The bael is given in the form of a sherbert, with sugar, in the form so well known in India.--*British Medical Journal, February* 10, 1900.

59.—ON "WASHING" DYSENTERIC STOOLS.

By KENNETH MACLEOD, M.D., LL.D.,

Professor of Military Medicine, Army Medical School, Netley.

[From Dr. MacLeod's paper :]

The process of "washing" dysenteric stools was first introduced into practice by Dr. Edward Goodeve, Professor of Medicine in the Calcutta Medical College. The stool is received in or transferred to a vessel of considerable capacity--the pan of a commode, for example. This is filled with water poured from a height of a foot or so, from a jug or ewer or tap. Masses may, if necessary, be broken up by a glass rod or stick. After allowing the material to settle for a minute or so, the fluid is slowly decanted into another vessel, so as to present to view a thin layer. The feculence floats and passes over with the fluid; the pathological products and heavy particles of feculence subside. What passes out is carefully watched and noted, and what remains may be again and again washed by adding fresh volumes of water and decanting, until the material has been freed of offensive and compromising stuff, when it may be transferred into a white plate or dish for examination. The process may be employed in other intestinal diseases, sprue for example In most cases of dysentery, accurate study of the intestinal discharges cannot be made in any other manner.

The information gained by this process of washing the stools may be summarised as follows :—(1) The colour of the fluid indicates the amount of blood contained in the evacuations, according to the depth of the tint when it is sanious. (2) The size, shape, and character of feculent masses when solid may be noticed, and inferences may be drawn as to condition, calibre, and tone or irritability of the diseased gut. (3) The nature and activity of the digestive process may be inferred from the state of the excreta. Undigested masses of meat or farina may be seen, or curdy lumps of imperfectly digested milk observed. (4) The character of the ingesta may be determined. Imperfectly masticated and undigested pieces of potato, vegetables, or fruits are easily identified, and grains of unboiled rice or sago discerned, and seeds of oranges, figs, grapes, &c., descried. Many of these things sink and are seen among the residuum. The dieting of the patient can thus be very effectually watched and controlled. (5) The lighter particles of mucus float in the water, and this may be flocculent or tenacious—clear, rosy, branny, or ropy. Inferences are drawn from these characters, as regards the stage and intensity of the dysenteric process and effects of treatment. Clear or rose-coloured flecks indicate an early (catarrhal) stage; branny particles, a dysentery undergoing satisfactory cure; and ropy masses, a slower process of recovery in a more protracted case. (6) The residuum may show blood clots of various kinds and sizes, masses of jelly-like mucus, lumps of more solid inspissated mucus, and casts or exuviæ of various sorts. These latter are the most important pathological products, indicating a grave malady of some standing, and destructive lesions of varying kind and degree. The nature of the destructive process may be surmised from the character of these casts or sloughs. They may be pulpy and circular, or oval, soft, and disruptible, yellowish or greenish, consisting of a pus-infiltrated mucosa, and representing castings off of an inflamed mucosa or submucosa. They may be stringy, tenacious, and angular, consisting mostly or entirely of detached submucosa. They may be greenish or drab-coloured, thick, large, or cylindrical, the result of coägulation necrosis of an extensive diphtheritic deposit on and in the walls of the intestine. They may be dark, pulpy, offensive, and soft, due to a process of gangrene. The relation of these different products to diagnosis, prognosis, and treatment is obvious and most important. (7) The products thus obtained can be subjected to further examination, for bacteria or amœbæ for example, or preserved with spirit or carbolic water for further study. (8) The results of treatment may to some extent be judged. Changes in the character of the evacuations are best appreciated when these are subjected to this system of analysis. Pills or tabloids may be seen which have passed through unaltered and unused. Grains of ipecacuanha or other powders, or of reduced bismuth, may be observed, which perhaps increase or perpetuate the irritation.

The intelligent treatment of dysentery necessitates continuous and systematic examination of the stools, and the method which I have described largely robs this proceeding of its unpleasantness, while it contributes most materially to thoroughness and enlightenment.—*Edinburgh Medical Journal, April*, 1900.

60.—ON THE DETECTION OF CALCULI IN THE LIVER AND GALL BLADDER.

By Carl Beck, M.D.,
New York.

[From Dr. Carl Beck's paper. The plates and other parts are omitted here.]

It has been my privilege to try experiments in this direction ever since February, 1896, by making ninety-seven skiagraphs in twenty-eight cases of suspected cholelithiasis. In several of the cases I have made from six to ten exposures in different positions, and during a different length of time. Among them were nineteen cases in which the presence of biliary calculi was ascertained by subsequent cholecystotomy. In only two of them was I able to obtain slight shades on the plates, and they were so indistinct that I should not have relied upon them as a diagnostic means.

After all these many disappointments I finally succeeded in skiagraphing the cholelithiasis of a lady of seventy-two years for the first time. I had first employed four different photographic plates at the same time. The upper plate, situated directly below the region of the gall bladder, showed well the outlines of the liver, while in the fourth and remotest it appeared only faintly, but the calculi were clearly represented.

The next exposure was made with a quick-penetrating focus tube on a single plate, and lasted ten minutes. After I found, now, how long it took with this tube to represent the liver, I exposed a second plate, this time for six minutes. An exposure lasting seven minutes, one for eight minutes, and one for nine minutes were also made, all showing that the longer the time of exposure the clearer the liver and the obscurer the calculi appeared. It is thus evident that one exposure is not sufficient to determine the length of time required by each individual tube for the representation of biliary calculi. A test should therefore be made first by making a short as well as a long exposure in a case of suspected cholelithiasis—*i.e.*, to expose for about five minutes as well as for ten. The most powerful focus tubes at present attainable should invariably be chosen for that purpose. By comparing the results the proper length of exposure for the best results may be determined. For better identification the contours of the organs, especially of the liver, should be outlined by thin wire attached to the plate before the final skiagram is taken. A point which seems to be of great importance is that the patient should lie on his abdomen with a pillow underneath his symphysis as well as underneath his clavicles. The elevation produced by these pillows permits the protrusion of the region of the gall bladder, thus bringing the calculi nearer to the photographic plate. The approximation is still increased by turning the body slightly to the right and raising the left side. A third and most important point is that the rays should not penetrate the abdomen in a vertical direction, but from the side, so that the thick and less transparent tissue of the liver is not permeated in its whole diameter. The direction of the rays should be such that they form an angle of about forty-five degrees with the plate.

By carefully employing these methods, I was able to obtain a still more distinct representation of biliary calculi in the son of this patient. In a skiagram taken by an exposure of six minutes, two large calculi were shown in the gall bladder, one in the cystic duct, and three in the liver, their elliptic shape, their size, and diameter being well marked. It is certainly of great importance to know whether there are calculi in the liver besides those present in the gall bladder.

The point most needful to be considered in skiagraphing biliary calculi is their chemical composition, which is far more complex than that of calculi in the urinary tract. Various experiments have shown me that calculi consisting of pure cholesterin give but an indistinct shade, while those containing quantities of calcium are well appreciable. I have skiagraphed all the different types of calculus on a photographic plate, in order to obtain a visual comparison of their permeability. The same calculi were then irradiated through the living body, thus practically demonstrating the difference of translucency.

Thus it can be seen that in classifying the various degrees of translucency we should be guided by the different types of composition. We distinguish common biliary, pure cholesterin, stratified cholesterin, pure bilirubin-calcium, and mixed bilirubin-calcium calculi. Besides, there are some uncommon forms, as, for instance, the small amorphous, the calcium carbonate, and the combination calculi.—*New York Medical Journal*, *January* 20, 1900.

61.--CIRRHOSIS OF THE LIVER.

By W. B. Cheadle, M.D., F.R.C.P.

[From Dr. Cheadle's Lumleian Lectures :]

The question is not one of mere relief of distress, it is one of releasing the embarrassed vital organs from fatal pressure—of improving the general pathological condition and making temporary recovery possible. For ascites does not arise in the last hopeless stages of atrophic cirrhosis only, but now and again appears earlier, when more than mere temporary relief may be hoped for. The practice adopted for this purpose of old was to attempt to carry off the fluid by hydragogue purgatives and by diuretics. Now with regard to the former it may be affirmed without hesitation that hard purging is in these cases a pernicious and fatal practice. It is in most instances absolutely ineffectual as a means of reducing the dropsy; it is most effectual in reducing the strength and nutrition of the cirrhotic patient already enfeebled by the difficulty of drawing a minimum of aliment through the obstructed vessels. This difficulty is increased by purgation ; the nutrient fluid is hurried through the alimentary canal too rapidly for absorption. The flow is set outwards instead of inwards. The plan of giving the purgative in the early morning before food is taken mitigates, but does not neutralise, the ill-effects ; a large amount of nutrient material remaining from previous meals is drained away. Further, this favours the onset of diarrhœa, which is only too apt to set in spontaneously, is most difficult to control, and is of evil augury. Therefore although a few sharp purges may be useful at the outset when the patient is comparatively robust, free purging is a fatal device when the patient is enfeebled, and in any case is to be deprecated as a continued treatment.

With regard to diuretics, it may be said that where the kidneys are sound they are harmless and that where diseased they are injurious. They are, however, constantly futile. Cases are, indeed, recorded where the action of diuretics is credited with the cure of abdominal dropsy. I have tried them all, and as a means of removing the copious effusions of hepatic ascites with entire want of success. As a matter of fact, in this condition, as Murchison pointed out, "diuretics are of little avail." The pressure on the renal veins so interferes with the circulation through the kidneys that diuresis becomes impossible. It has been found that whilst the most powerful diuretics have failed to excite the flow of urine in ascites the removal of fluid by paracentesis is often followed by a copious flow even without the aid of diuretics.

In a paper published in *The Lancet* more than 20 years ago, I discussed the treatment of dropsy of various forms on the plan of restricting the inflow of fluid by restricting the drink of the patient, compelling the body by limiting the intake to reappropriate some of the outflow and thus favouring absorption of effusions. I found that in cases of renal dropsy it was unquestionably injurious, lessening the flow of urinary excretion; in cases of cardiac dropsy of doubtful service; but in hepatic ascites usually well borne and of some value as an adjunct to other treatment. In a recent article on dropsy, Dr. W. H. Dickinson cites two cases of hepatic ascites in which this method proved successful.

The only reliable plan of removing the abdominal fluid, however, is to draw it off by mechanical means (paracentesis). The postponement of the operation until the vital machinery is seriously embarrassed is, I am convinced, a fatal error. Why should we persist in exhausting our debilitated patient in the vain attempt to remove fluid by drugs through the roundabout channel of bowel and kidney and, whilst we waste time in these futile endeavours, allow the vital organs to become more and more engorged and injured when it can be withdrawn directly and more effectually by the simple agency of Southey's trocar? The good effected is great — the risk in these days of antiseptic surgery of the smallest. I have known only four instances in which paracentesis proved fatal from resultant peritonitis. Two were in the period before antiseptic precautions were observed; the third was due to accidental displacement and infection of the drainage-tube by the patient during the process; the remaining one was unexplained. It is true that when the operation is postponed until the patient is in the last stage of cachexia and exhaustion tapping sometimes hastens the final failure; but I have never seen this in the earlier stages before the general health has been gravely impaired.—*Lancet*, *April* 14, 1900.

62.—MILKY ASCITES.

An accumulation of fluid in the peritoneal cavity may result from either local inflammatory conditions, or more exclusively vascular states. In the first instance, it occurs as an exudation; in the latter as a transudation. The second of these conditions may develop in consequence of venous blood stasis from whatever cause, general or local, or of undue permeability of the veins, such as is associated with nephritis, tuberculosis, carcinoma and other cachectic states. Exudates and transudates are usually clear, though the former are likely to contain flocculi of lymph, while their specific gravity is the higher—above 1014—and they contain the more albumin. The effusion may be bloody, and contain red corpuscles. Occasionally, ascitic fluid is whitish, like milk. This appearance may be due to the presence of either fat or chyle. The former has been observed in connection with tuberculosis or carcinoma of the peritoneum, when large numbers of fat-cells are thrown off and become admixed with and partly dissolved in the fluid present. Chylous ascites may result from rupture of lacteals or the thoracic duct, although it has been observed also in connection with carcinoma of the abdominal viscera.

In a case referred to by Osler, diphtheria bacilli were isolated from the fluid, and in one reported by Eshner micro-organisms resembling colon bacilli were found.

A case reported by Poljakoff (*Berl. klin Woch.* 1900, No. 1.) differs from most of those on record in the failure of the fluid to yield to any of the reactions of fat. The patient was a woman, aged 48 years, who presented general anasarca, and who denied and presented no evidence of syphilitic infection. The urine, passed in a small amount, was dark red in colour, with a specific gravity of 1033, and it contained a small amount of albumin, with hyaline and granular tube-casts. The abdominal effusion increasing, puncture was practised, and nine quarts of a milky-white fluid were evacuated. The accumulation, however, reformed, the heart became weaker, and death ensued ten days later. On post-mortem examination the kidneys were found involved in parenchymatous inflammation. The liver was small and cirrhotic, and was the seat of a number of cicatrices, and of excessive lobulation. The spleen was scarcely enlarged. The peritoneal cavity contained milky-white fluid, and the peritoneum was sclerotic. The heart exhibited brown atrophy. The peritoneal fluid had a feebly alkaline reaction, and a specific gravity of 1009. The sediment formed on standing was found, on microscopic examination, to consist of well-preserved leucocytes. The presence of fat could not be demonstrated on either microscopic or microchemic examination. Chemical analysis disclosed the presence of serum-albumin and globulin, and an absence of peptone, hemi-albumose and sugar. According to Poljakoff, only three similar cases have been reported (Lion, Achard, Lainton). In these carcinomatous peritonitis was present. In all of the cases a creamy layer failed to form on the surface of the fluid on standing, while the fluid became clear on addition of glacial acetic acid and subsequent application of heat, but not when shaken with ether.—*A leading article in The Journal of the American Medical Association, February* 3, 1900.

DISEASES OF THE URINARY ORGANS.

63.—RELATION OF RENAL DISEASES TO OTHER MALADIES.

Consulting physicians habitually see a considerable number of patients who have been under the care of general practitioners, and are frequently surprised at the number of cases in which renal lesions have been overlooked because the symptoms which the patient has presented have not pointed directly to kidney disease, and the physician has not been careful enough in his examination of the patient to insist on a careful urinary analysis. This carelessness is chiefly due to the fact that the general practitioner is so pressed for time that he fails to make an analysis when he should do so, or else it depends on the fact that his primary medical training has not been of such a character as to teach him the importance of such examinations. As a matter of fact, there are few diseases met with among human beings which so frequently produce aberrant and unusual symptoms as disease of the kidney. It seems hardly worth while to point out that no case of severe headache should be treated for any length of time without a careful urinary analysis being performed, and again, the various neuralgic pains in different portions of the body, which do not yield readily to treatment, should at once be regarded with suspicion as evidencing deficient elimination of toxic materials from the system. So too, it is not uncommon for physicians to meet with cases of disturbed heart action due to renal changes, or with a subacute or chronic bronchitis, which fails to yield to ordinary methods of treatment and is found to be due to defective renal activity. In some cases, on the other hand, it is not to be forgotten that in association with changes in the kidneys there are primary or secondary alterations in the circulatory system, and a careful examination of the heart and arterial walls may reveal the fact that not only the kidneys but also the heart and vessels need the attention of the therapeutist.

In another class of cases digestive disturbances, varying widely in degree and character, may manifest themselves. Even continued nausea, or attacks of vomiting, may be dependent, not on any local condition, but on the presence of uræmic poison in the blood, and urea poured out by the gastric mucous membrane undergoes an ammonical change and so irritates this viscus. In other patients, attacks of violent serous diarrhœa, which give the patient much annoyance and cause great weakness, are in reality efforts on the part of the system to eliminate poisons which are accumulating so rapidly that, did active purging not ensue, grave toxæmia would at once develop, and so the important lesson is learned that active purging in a patient with degenerated blood-vessels, or in a younger person with œdema, should not be suddenly checked with opiates or astringents until the physician is satisfied that the kidneys are acting properly. In still other patients cerebral symptoms develop, such as dizziness and swimming in the head, and these should not be put down to a thickened tympanic membrane, or to middle or internal ear disease until all possibility of unhealthy kidneys has been eliminated from the case. Meniére's disease may be closely simulated by uræmic intoxication. In connection with the question of bronchitis, we have neglected to speak of the frequency with which the prognosis, and, indeed, the the diagnosis of pneumonia may be confirmed by urinary analysis. In many cases of renal lesion, consolidation of the base of the lungs or pulmonary œdema will be looked for more carefully if the physician is aware of the fact that the urine is not as it should be, and usually the presence of albumin and casts in the urine of a patient suffering from pneumonia increase the gravity of the prognosis to an extraordinary degree.

Finally, it is not to be forgotten that cases are on record in which acute respiratory symptoms, depending on sudden pouring of liquid into the lungs, or œdema of the glottis, has come on with great suddenness and apparently without any of the ordinary causes, these symptoms being entirely due to the uræmic condition which in reality underlies them.—*A leading article in the Journal of the American Medical Association, January* 13, 1900.

64.—ALBUMINURIA IN THE APPARENTLY HEALTHY.

By HUGO A. LEVISON.

[From Dr. Levison's paper. The tables and other parts are omitted :]

The investigation which forms the subject of this paper was undertaken at the suggestion of Dr. Samuel West for the purpose of determining how frequently albumin may be detected in the urine of persons apparently free from disease. The cases which I selected were hospital patients and soldiers. The patients were surgical and medical from the wards, and a few from the casualty department with trivial complaints. All were presumably free from disease of the heart, lungs, and kidneys. Their temperatures were normal, and they were not suffering from suppurative diseases or discharges from the genito-urinary tract. Of 228 hospital patients, 82 were women and 146 were men, 15 of the latter being out-patients. In the case of ward patients the specimen was collected very early in the morning before food, and the time which elapsed till it was examined varied from five to twelve hours, the average being about eight. For the purpose of contrast with these cases, I selected 108 soldiers, of whom 24 were recruits, recently examined and healthy. The urine was passed after breakfast (about 9 a.m.), and tested between two and six hours later.

The tables show little difference between the relative incidence of albuminuria in males and females. The proportions of serum-albumin and nucleoproteid in the different age groups are pretty much the same. Both increase in amount up to the twenty-fifth year, diminish towards the forty-fifth, and then rise again. One table illustrates the high percentage of albuminuria in soldiers, and the marked increase after half an hour's drill. Unfortunately I have not had the opportunity to examine the same soldiers before and after exercise ; but I think that the results of the examination of the men who had not drilled may be taken as the standard for comparison. The lower rate of albuminuria in the hospital patients as compared with the soldiers is very striking, but is explained by the rest in bed and the regulated diet. Both food and exercise are among the well-recognised causes of temporary albuminuria. I will now compare this investigation with others pursued on the same lines, to see how far they tally, and what conclusions we may be justified in drawing from them. For this purpose I must briefly refer to those researches which have of late revolutionised our ideas regarding the significance of albuminuria. Bright was the first to point out the connection between coagulable urine, dropsy, and diseased kidneys. This discovery was ere long amply verified by the work of others. Careful observation, however, soon showed that cases of albuminuria of different character occurred, and that albumin was found in the urine not only in association with diseases of the kidneys, but also in many other diseases, both acute and chronic. The earlier observations throwing doubt on the correctness of Bright's standpoint, viz., that the occurrence of albumin in the urine is an absolute indication of organic disease of the kidneys, were based on methods the delicacy and accuracy of which are very doubtful. These objections cannot be raised against the more recent investigations, and the presence of some form of proteid material in the urine is now definitely recognised as occurring in all, or at least in the majority, of healthy individuals. There has been a great deal of controversy, more so of recent years, as to the nature of this proteid. In 1862 Reissner described a body which is precipitated by acetic acid from undiluted urine or urine diluted with water and insoluble in excess of the acid. This body was first called mucin, later mucin-like substance and nucleo albumin. It is present in every normal and pathological urine, as Huppert has shown, a view which is endorsed by Lecorché and Talomon. Many other observers have proved its occurrence in larger or smaller quantity under varying conditions, and Ott has demonstrated its presence in every one of 207 cases examined by Almén's test. Lieblein found that nucleoproteid when present in large quantity gives a faint reaction with potassium ferrocyanide and acetic acid, salicyl-sulphonic acid, and Spiegler's reagent. Pavy observed in cases of cyclic albuminuria a body which is precipitated by organic acids. Roberts also, some years previously, mentions the reaction which "mucin" gives with nitric acid, namely, the formation of an opalescent zone above the acid. There can be no doubt that these statements refer to nucleoproteid. In addition to the many instances where nucleoproteid has been found in normal urines and in larger quantities in cases of cyclic albuminuria, Mörner has more recently definitely proved its existence in every urine. My own researches render me prepared to believe that its presence is constant, and that those are right who affirm that if sufficiently delicate tests are used or the urine be concentrated traces of it will be found in every case. Besides nucleoproteid, serum-albumin has from time to time been said to be a frequent, or even a constant, constituent of urine. The first studies which led to this belief were those of Leube, which were followed by those of others.—*St. Bartholomew's Hospital Reports*, *vol.* xxxv., *p.* 170.

65.—NOTE ON FEBRILE ALBUMINURIA AND RHEUMATIC ALBUMINURIA.

By F. PARKES WEBER, M.D., F.R.C.P.,
Physician to the German Hospital, Dalston.

[From Dr. Weber's paper :]

Recently I saw it stated in a medical journal that "rheumatic albuminuria" was a somewhat indefinite form of "renal lesion," and that in rheumatic cases, when albuminuria occurs, if not due to real renal disease, it will in all probability be "febrile albuminuria" pure and simple. It seems to me that the latter part of this criticism on the term "rheumatic albuminuria" is itself a little obscure. I grant that the term "rheumatic albuminuria" merely signifies an attack of albuminuria occurring simultaneously with an acute febrile articular disorder resembling rheumatism, but does "febrile albuminuria" mean anything more than albuminuria accompanying (not necessarily caused by) a febrile state of the body? I hardly think it can be still maintained that the so-called "febrile albuminuria" is merely caused by pyrexia. It seems much more likely that, in most cases at all events, it is due to the causes of the pyrexia, whatever they may be. Surely it is no rare occurrence to find albumin absent from the urine of very febrile patients, and even in the hectic fever of advanced phthisis albumin is not invariably found. On the other hand, albumin may occur in the urine from temporary digestive disorders and "bilious attacks" not usually characterised by fever. During such attacks, if the urine were more frequently tested, a moderate cloud of albumin would, I believe, be not very rarely found.

The real, or at least most probable, explanation of all this seems to me the following:—The kidneys may secrete an albuminous urine from the local presence of irritants or from any toxæmic condition of the blood, and such toxæmic conditions of the blood may be due to infectious (microbic) causes, or may be the result of any kind of abnormal tissue change in the body. Though it seems highly probable that in most febrile cases the albuminuria, when present, is not directly due to the pyrexia, but that both pyrexia and albuminuria (supposing the kidneys to be previously free from organic disease) are due to a common cause, namely, some abnormal condition of the blood supplied to the kidneys; yet there can hardly be a doubt that the effect of the same abnormal state of the blood on the temperature and urine will be very different in different patients, and will depend on individual reactive peculiarities. Thus, whilst in many cases pyrexia may be accompanied by considerable albuminuria, in other cases of the same disease either the fever or the albuminuria may be almost or completely absent; at all events, the degree of albuminuria bears no constant relation to the fever, except perhaps in the case of any single patient during the course of the same disease.

The author then relates in detail the case of a middle-aged man who had an obstinate form of, at times acute, at other times chronic, articular rheumatism, each acerbation or relapse being accompanied by albuminuria and fever.

The clinical features of this case were very decided. It is not very rare to see middle-aged persons attacked with an obstinate form of acute or subacute rheumatism, in which the small joints of the feet and hands are often involved, and in which the heart generally escapes. Such cases are, I think, peculiarly liable to relapses, and often prove very resistant to the ordinary methods of treatment. In the present case, however, the peculiar feature was the renal complication, on which salicylate seemed to act beneficially, though, according to some authorities, it might be expected to have a bad effect. The fact that the albuminuria got better on each occasion simultaneously with the improvement in the rheumatic symptoms forms a strong argument for considering the renal disturbance to be of rheumatic origin. In fact, I believe that in this case the articular symptoms, the pyrexia, and the renal disturbance, which characterised each attack, formed a rheumatic trio, a rheumatic "symptom-complex." In reference, therefore, to the renal symptoms of such cases, the term "rheumatic albuminuria" is, I think, to be preferred to the term "febrile albuminuria."

In cases in which a little albumin is present in the urine, but rapidly disappears after a few doses of calomel or purgatives, or under salicylates, I suspect that a gouty or rheumatic disturbance of the general metabolism is often in great part the cause of the albuminuria, the kidneys themselves being secondarily irritated. In some cases, such as those supposed to be severe "bilious attacks," notably when the specific gravity of the urine is very high owing to excess of urea and urates, the metabolic functions of the liver may be specially at fault.

There are doubtless many other varieties of temporary albuminuria (apart from "physiological albuminuria" or "albuminuria in healthy persons") not due to organic kidney disease, or not necessarily accompanied by such disease. I will, in conclusion, merely allude to what may perhaps be considered a special clinical variety of slight albuminuria, namely, a condition of the urine which may be associated with chronic intestinal catarrh and a tendency to diarrhœa. In this condition the use of subnitrate of bismuth (possibly in large doses), instead of increasing the slight albuminuria by lessening the discharge from the bowels (and thereby, one would ordinarily suppose, throwing more work on the kidneys), may be followed by diminution or disappearance of the albumin from the urine. The explanation is, doubtless, that a favourable effect on the intestinal disorder is obtained, the absorption of irritating products from the intestines is diminished or prevented, and the source of irritation to the kidneys is thus removed.—*Edinburgh Medical Journal, January*, 1900.

66.—DIABETIC ALBUMINURIA AND RENAL DIABETES.

By Prof. F. SCHUPFER.

[The following is taken from Dr. H. W. Syers's Summary of Dr. Schupfer's paper in *Il Policlinico*, January 1, 1900.]

The title of the paper, of course, defines its scope ; it includes not only an elucidation of the association between diabetes and albuminuria, but also an inquiry into the relationship which exists between the kidney itself and the former malady. The first portion of the paper concerns the question of albuminuria in diabetes. Numerous statistics establish the fact of the occurrence of these two maladies at the same time, some observers putting the percentage as high as 66, others at not more than 23. Usually when albuminuria accompanies diabetes the quantity of albumin present is not large, often not more than a trace. To what is this appearance of albumin in the urine of diabetics due? The answer to this question is not easy ; in some cases it may arise quite independently of the presence of saccharine urine, being due to interstitial nephritis or associated with gouty conditions, and in any case it does not appear that a definite connection exists between the elimination of albumin and that of sugar. Marked glycosuria may occur without any but the slightest trace of albuminuria, and *vice versâ.* The author considers that the mere fact of the presence of glycosuria is not, *per se*, sufficient to account for the production of associated albuminuria, for were this so the greater number of diabetics would suffer also from Bright's disease. It would appear that albuminuria is most common in those cases in which diabetes is associated with arterial degeneration, being far less often met with in pancreatic diabetes. In other words, the albumin is connected with granular kidney. An important point concerns the influence of this albuminuria on the course of the diabetes. The author has found that the onset of nephritis has in some cases caused a reduction, in some a disappearance, of sugar in the urine ; but in a considerable number of instances the presence of the renal lesion has had no definite influence on the course of the malady. From the results of a series of experiments undertaken for the purpose of ascertaining the influence (if any) of the renal epithelium upon the progress of diabetes, the author concludes that these cells certainly have an influence on glycosuria, in some cases diminishing the amount of the same, but not in any circumstances having the power of causing its complete disappearance. In this connection mention is made of the cases reported by Frerichs in which glycosuria disappeared after the onset of symptoms of interstitial nephritis. In all these instances of the cure of saccharine diabetes by the occurrence of chronic nephritis the patients were gouty and stout. The literature of the connection between albuminuric gouty conditions and diabetes is carefully analysed, and the author comes to the conclusion that the albuminuria is often the result of a chronic nephritis, not in any way connected with diabetes, but only accidentally complicating the latter. In such conditions the diabetes has nothing to do with the appearance of albumin in the urine. In such cases there may be an alternation in the appearance of sugar and albumin. The substance of the whole matter is that at the present time it is impossible to speak very definitely as to the part played by the kidneys in the progress of saccharine diabetes; but it seems tolerably certain that chronic disease of these organs does not tend to increase the quantity of sugar, while in some cases (those of stout, gouty people) the amount of sugar may fall on the appearance of albuminuria. But it is clear that the different varieties of diabetes must be separately considered, and the author divides the subject into the following heads, neglecting altogether such transitory glycosuria as may occasionally be met with during lactation or in certain nervous diseases, &c. First of all pancreatic diabetes and its relation to albuminuria come up for consideration, then that form of the disease associated with arterial sclerosis and gout, and lastly the renal type of the malady. The course of pancreatic diabetes during which albuminuria appeared is illustrated by the very full report of an undoubted case of the disease which came under the author's care, and in which the most elaborate analysis of the urine was constantly made. Now, the author allows that the results obtained from the most careful observation of this case are not altogether to be relied upon; but he has come to the conclusion that, approximately, in pancreatic diabetes, quantities of albumin varying from 0·5 to 1 per cent. have no special influence upon the quantity of sugar eliminated. But further observation is required on this and many other points, and especially on the mode of action of the kidneys in pancreatic diabetes. The author has proceeded to experimental research, of the results of which the following is a short account. The effect of the presence of albumin in the urine when pancreatic diabetes is established appears to vary according to the amount of albumin. Thus, when the quantity varies from a mere trace up to 1 gramme per 1,000 of albumin no diminution in the quantity of sugar is observed; if, on the other hand, the albumin amounts to 2 grammes per 1,000 the amount of sugar diminishes, and the greater the amount of albumin the less that of sugar. When nephritis is induced by means of bichromate of potash, sugar is eliminated to a less degree from the kidney whence the excretion of albumin is greatest, which is in strict conformity with clinical experience. As regards prognosis, these results would show that in pancreatic diabetes a slight albuminuria is not in itself an important factor as regards either the general condition of the patient or the course of the disease. A slight albuminuria, due to increased functional activity of the kidneys, may be neglected from the point of view of treatment and prognosis. Only in exceptional cases is it necessary to change the diet when, in saccharine diabetes, albumin appears in the urine. Only when increased tolerance of carbohydrates is brought about by the presence of albumin in the diabetic urine is it necessary to reconsider the question of diet from the point of view of an alteration in the nature of the food being required. —*Treatment*, *April*, 1900.

67.—MALARIAL NEPHRITIS IN CHILDREN.

By Dr. MONCORVO,

Clinical Professor of Children's Diseases in the Polyclinic,
Rio de Janeiro.

[From Dr. Moncorvo's paper :]

In the chapter on nephritis, in the treatise of Barthez and Sanné, there is scarcely any mention of intermittent fever as a cause of renal inflammation. We are indebted to Henoch for more definite information. He hastens to add, however, that nephritis follows very rarely in the course of intermittent fevers. In his *Lecons cliniques sur les maladies des enfants* (*tra. fr. Paris*, 1885) he mentions three cases of this kind. In my *Lecons sur la Malaria Infantile* (*Paris*, 1895) I called attention to acute nephritis among the complications occurring in the course of paludal fever, adding that the latter in relation to nephritis played the same rôle as scarlet fever in the cold and temperate climates. This explains why in 35 cases of acute nephritis in young subjects, recently collected in my service, 26 coexisted with malaria.

[The details of the author's cases are omitted here.]

I may mention that the diagnosis of malaria has been confirmed in some of my little patients by the examination of the blood. The numerous examples of this nature which I possess go to prove that in the field of my observations malaria plays the same part in respect of acute nephritis in the young as does scarlet fever in the cold and temperate climates.

I even feel authorised to state that the cases in question often pass unnoted among us, probably on account of their usual benignity. As regards its clinical character, this nephritis does not markedly differ from that accompanying other infectious diseases. It is, however, of a shorter duration, and nearly always terminates favourably. The œdema also, contrary to what is usually observed elsewhere, sometimes involves nearly the whole body, constituting a true anasarca. The secretion of urine is more than usually diminished, reaching occasionally the point of uræmia, which does not generally last more than twenty-four hours. Albuminuria is almost constant; in certain cases, however, it disappears for short intervals. The proportion of albumin varies greatly, according to the case and the time of examination. The amount is not always in proportion to the intensity and duration of the nephritis. The presence of hyaline casts, incrusted or not with epithelial cells, has in almost all the cases made sure the nature and seat of the complication in question.

The most difficult question to solve in these cases is that regarding the interpretation of the inflammatory process in the kidneys. Does it arise from a secondary infection of the kidneys following on the malarial intoxication? Or, on the contrary, must one admit that this accompanying inflammation is due to the presence in the renal vessels of the hæmatozoon of Laveran? Would it be more reasonable to attribute it to the direct action of the toxine elaborated by these micro-organisms? These are the problems which still await a satisfactory solution. We are in possession of no writings nor researches which give light and information on this subject. Lastly, efforts have been made, as we know, to attribute to the influence of toxines a nephritis occurring in the course of a local infectious malady, as for instance a tonsillitis, the toxines being elaborated by the micro-organisms producing the original disease. With regard to malarial nephritis, I side with my eminent colleague, M. Hutinel, who, in reference to this, expresses himself as follows in a manuscript communication which he has had the goodness to send me: "We are not yet well acquainted with the toxine secreted by the protozoon of Laveran. This protozoon is quite different from other microbes, and it might perhaps be imprudent to speak of its toxine in the same way as we speak of that of the diphtheria bacillus or the bacillus of Eberth. It is possible that the action of the micro-organism of Laveran on the kidneys is purely and simply a local one, which may be ascribed either to the presence of the protozoon in the vessels of the glomeruli, or to its contact with the cellular elements. It is possible, also, that this action is exerted through the medium of the blood, the alterations in which are undoubted." This is only a hypothesis, but there is no reason why we should not suppose that in some cases at least these factors have a cumulative action, which might, perhaps, explain the greater intensity of the inflammatory process. In conclusion, I only wish at present to call the attention of clinicians to the complications of malaria so common in the young, hoping that so important a subject will in the future call forth new researches to complete the study.—*Pediatrics*, *April* 15, 1900.

68.—BRIGHT'S DISEASE AND SKIN AFFECTIONS.

By Dr. HUGH THURSFIELD.

After careful comparison of the greater part of the literature of the subject, the author suggests the following classification: (1) Those affections which characterised the early stages of the disease: pruritus, urticaria, and eczema; (2) those which occurred in the final stages, and in uræmic conditions: the universal erythematous, bullous, and desquamative eruptions; (3) purpura and other hemorrhagic conditions; (4) those affections which occurred in patients the subjects of general œdema, and were most probably the result of invasion by pyogenic micro-organisms. This fourth division was not further discussed in the paper. In the first division the skin affections were to be regarded as suggestive indications of the real seat of disease, which occurred earlier than the more usually recognised symptoms, and in exceptional cases as premonitory signs of grave complications, such as uræmic coma. Under the second division was classed the affection described originally by Huet, and later by Le Cronier Lancaster; and, in addition, references were given to several instances of general exfoliative dermatitis, these being now so numerous that this affection should be generally recognised as frequently caused by renal disease. The third division—the hemorrhagic eruptions—was possibly due to causes different from the above, and the number of cases reported fell short of expectation. The causation of these skin affections was comparable to the causation of the rashes which occurred in septicæmia, and as a result of drug administration. They were most probably due to the action of a toxin, or possibly to a combination of toxins, the skin being affected through the vasomotor and trophic nerves, rather than by direct action of the poison excreted through its glands.

In the discussion which followed, Dr. Pye-Smith agreed that these cases were very rare, and that many of them were merely coincidence. He doubted if eczema had any direct relation with nephritis. The erythema læve undoubtedly was casually related to nephritis, but this was a local thing depending mainly on the tension of œdema. Apart from this these skin diseases were related to the chronic interstitial nephritis. The hemorrhagic cases occurred in the later stages of chronic nephritis, and were a special, almost an accidental form. Of the rest the most singular was pityriasis rubra, and in this it sometimes seemed as if the albuminuria were a result and not a cause of the skin disease. The most common form was a papular eruption with pruritus, probably a part of the pathology of Bright's disease. In many cases the eruptions passed away, and therefore he would rather call them renal than uræmic. These eruptions were not in themselves of very grave import, although they of course occurred in the later stages of a very serious disease. They at all events were not an invariably fatal prognostic sign.

Dr. Radcliffe Crocker remarked that there were two stages at which the kidneys might be associated with skin disease – the early and late. Though albuminuria was often associated with skin diseases, yet these could not be taken to suggest kidney disease. Thus, although pruritus might be associated with albuminuria, yet it was more commonly associated with glycosuria. In a few cases albuminuria was probably etiological. There was a form of erythema rather suggestive of uræmia —discs the size of a thumbnail eventuating in a general desquamation. A case was quoted of this nature, which developed into a diffuse lupus erythematosus. The skin diseases had, he believed, no immediate lethal prognosis. Any form of kidney disease might give rise to erythematous eruptions, and was probably due to a toxin, but its nature was not certain. The same skin disease might be due to different causes in different people, and its nature depended more on constitutional peculiarities than on any toxin.—*British Medical Journal*, *March* 17, 1900.

69.—THE TREATMENT OF NEPHRITIS.

By H. A. Hare, M.D.,

Professor of Therapeutics in the Jefferson Medical College of Philadelphia.

[The author makes the following remarks on diet in Bright's disease, and on the question of diminishing the amount of albumin excreted :]

In regard to the question of diet, it is evident that no cast-iron rules could be laid down, and many cases of chronic contracted kidney, unless they are markedly gouty, can have a liberal diet, provided it is one which is easily digested and not calculated to produce gastric and intestinal disturbances. In other words, these patients need not have their meat cut from the diet list, but should be allowed to take good wholesome food, provided that it is not taken in excessive quantity. In chronic parenchymatous nephritis it has been held by many practitioners, as is well known, that it is our duty to eliminate from the diet list eggs and red meats ; on the other hand, many physicians of large experience are coming to the belief that this is depriving the patient of a large amount of nourishing food which in reality he can take with impunity, provided it is not taken in excess of the needs of the system. Probably the most satisfactory rule to be followed in these cases is to be governed by the effect of the administration of eggs and meats upon the patient, and upon his elimination of albumin. If on the administration of eggs and meat his albuminuria is markedly increased and he does not seem to do so well in general, it is evident that these articles should be taken from him. If, on the other hand, his general health and strength improve by their use, and the albuminuria is not increased, it is evident that they should be allowed. In some cases, where the albuminuria is marked, the use of albuminous food seems to take the place of the albumin which has been lost through the kidneys. Of course, in cases of acute nephritis it is advisable to avoid albuminous food until the acute period of the disease is passed by.

So far as I know, there are no drugs which distinctly decrease the elimination of albumin in advanced parenchymatous nephritis, and it seems to me doubtful whether the attempts to check the escape of albumin by such drugs are wise, since if they succeed they probably also decrease the elimination of impurities from the blood. Most of these remedies have been astringents which are supposed to act by contracting the renal blood-vessels. There is, however, one drug which ought to be remembered in cases of parenchymatous nephritis, namely, iron. On the other hand, this drug is too much relied on by many physicians ; aside from the fact that when given in mixture a diuretic effect is produced, the large doses of iron which are frequently given in this way probably do more harm than good, as they tend to produce constipation, and only very minute amounts of iron can be used. Probably spirits of mindererus, when given alone, would produce almost equally good results ; and if minute doses of iron were given in pill form equally good influences would be produced in combating anæmia.—*Therapeutic Gazette, December* 15, 1899.

70.—DIURETICS IN RENAL DROPSY.

By E. R. Axtell, M.D.,
Of Denver, Colorado.

[From Dr. Axtell's paper :]

For practical purposes the direct diuretics are divided into two classes, the saline diuretics and the stimulant diuretics. In renal dropsy the saline diuretics are frequently used, and apparently without discretion. They may be useful, but they may be very harmful. In the dropsy of an acute nephritis saline diuretics do harm as long as the inflammation of the kidney is the cause of the diminished secretion of the urine. An inflamed kidney should not have its epithelium stimulated to increased activity ; an artificial hyperæmia should not be added to acute congestion. So harmful may saline diuretics be in acute nephritis that they may hasten the appearance of uræmic symptoms. I contend that all diuretics should be withheld in acute nephritis until the acute inflammation has subsided. This means that a period of one or two weeks ought to elapse before they are given. When the inflammation has subsided and there exists a scanty flow of urine, due to the presence of tube-casts and masses of blood in the uriniferous tubules, it will do more harm if they are not removed. On the passing of more urine, the dropsy often goes away slowly and steadily. In the dropsy of chronic renal disease I have never seen the saline diuretics do much good. They may increase diuresis, but they do not lessen dropsy. Certainly in any case of chronic renal dropsy one would not be justified in using the saline diuretics for any length of time. If the damaged kidney cannot secrete water, it cannot eliminate these medicines. In this way we could do harm.

The stimulant diuretics are frequently recommended in the most careless manner for renal dropsy. It is true that in many cases of dropsy we get to a place where the question is, what is next? and where one sees the great need of a drug that will make the remaining kidney tissue do its work actively. It is in such cases that we are privileged to use renal diuretics, but not until diaphoretics and hydrogogue cathartics have been tried. That is the fundamental consideration.

[The author then considers briefly the following :—Scopparius, squill, caffeine, pilocarpine, digitalis, diuretin, sweet spirits of nitre and calomel ; but his remarks on caffeine and diuretins are alone included here.]

Caffeine citrate was first recommended for renal dropsy by Professor Gubler, who asserted that it was a powerful diuretic.

His claim has been confirmed clinically many times. It is not to be used in acute Bright's, but can be used in chronic Bright's in doses of three grains every three to five hours. It apparently has a direct diuretic influence in addition to its cardiac action. Caffeine, when injected into the blood, affects blood-pressure but little. It causes dilatation of the renal vessels after a passing constriction and an increase in the flow of urine after a temporary diminution. It is often uncertain in its action. It will work nicely one time, and be of no service at another. It is worth a trial when other things have failed.

Diuretin was the name given by Dr. Christian Gram, of Copenhagen, to the salicylate of theobromine and sodium which he introduced as a substitute for caffeine. Extensive clinical experiments with the drug showed its diuretic action. It is a white powder, with a slightly bitter and disagreeable taste, and is very soluble. Its solution is very unstable and decomposes rapidly. This drug exerts its diuretic properties by a direct action on the secreting tissue of the kidneys. It acts promptly and energetically. Its effect is continued for twenty-four or thirty hours after administration. It increases both the solids and fluids of the urine. In all forms of dropsy due to renal disease, where a diuretic is demanded, diuretin can be used. There is certainly but little irritation to the renal epithelium, and very few bad results have been reported from its use. It may occasionally produce slight intestinal irritation, and it has been known to cause slight delirium, but it is probable that in these cases the dosage was unnecessarily large. The best method of giving the drug is in ten to twelve grain doses, three times a day, to be increased to thirty grain doses if necessary. It is best administered in water with some aromatic essence, like essence of peppermint, to disguise its bitter taste, and always when the acidity of the stomach is at a minimum, *i.e.*, three or four hours after eating. When it fails in a case of renal dropsy, a combination of diuretin and digitalis should be tried. I have used diuretin many times in renal dropsy with scanty urine, and I have seen the urine increase from 20 ounces in twenty-four hours up to 146 ounces in the subsequent twenty-four hours. I have never noticed any change in the circulation from its use, and although I employed it for a long time in two cases of renal dropsy, yet it did not seem to increase the arterial pressure at any time. Diuretin has been used with good results in the renal dropsies of children, and R. Demme says that in the dropsy of scarlatinal nephritis, following the first stage of the disease, diuretin is more efficacious than any other diuretic. The dose for children from two to five years old is from three to fifteen grains daily; from six to ten, fifteen to forty-five grains daily.—*Medical News*, *Jan.* 20, 1900.

Surgery.

GENERAL SURGERY AND THERAPEUTICS.

71.—THE ADMINISTRATION OF CHLOROFORM.

By John A. Wyeth, M.D.,
Professor of Surgery in the New York Polyclinic Medical School and Hospital, New York City.

[The following is taken from Dr. Wyeth's paper on the choice of an anæsthetic in surgery.]

At present, in about 75 per cent. of my operations I employ chloroform either wholly or at some stage of the narcosis. In using it I invariably inject, beneath the skin, $\frac{1}{4}$ gr. of morphia with 1/150 gr. of atropia, about fifteen minutes before the anæsthesia is commenced. The action of these combined alkaloids is to stimulate the heart, and to allay to a considerable extent the anxiety of the patient. Their employment is based on what I believe to be a fact, that chloroform is dangerous chiefly to the heart, and that it is in the early stages of its administration that its danger is imminent. All the cases of death from chloroform with which I have been acquainted have been from heart and not respiratory failure, and this depression of the heart has occurred before a complete narcosis has been established. Fright or anxiety is a depressing factor, and the temporary stimulating effect of these alkaloids allays anxiety in great measure, and is useful in stimulating the action of the heart. Chloroform should be administered with very great care, and one not thoroughly trained in its use should not administer it or permit it to be employed. Although I have in my regular employ an assistant who is an unusually well-trained anæsthetist, it is my rule to superintend the narcosis itself until I have tested thoroughly the ability of the patient to withstand the anæsthetic.

I prefer the Esmarch screen, and administer chloroform very carefully, keeping the finger on the pulse all the time, and watching the pupil to notice any sudden dilatation. If the patient gradually gives way to the effect of the anæsthetic, and the pulse holds good without any break or interruption of its rhythm, I am satisfied that the chloroform is having no unfavourable effect. The pulse may be rapid, 100 or 120 to the minute; it may be slow enough to register only 50 or 60 in the minute, but these variations are not suggestive of serious danger so long as the heart beats regularly. If it begins to break off and a beat is lost here and there, or if two or three successive beats fall off in force and fulness and then rise again in volume, it is a signal of alarm which I always respect, and I then remove the screen and wait a few minutes to see what the heart will do. If it steadies up with the removal of the anæsthetic, I accept the inference that the slight interruption in the heart's rhythm is due to nausea, and continue with the anæsthetic. But should there with this condition occur sudden pallor of the face, especially marked about the lips, I remove the chloroform at once and immediately cause the head and chest to be lowered by lifting the patient's lower extremity in the air, or by elevating my operating-table in the Trendelenburg posture. I consider this such an important step in threatened collapse in chloroform narcosis that I always administer it on my operating-table, where this position can be obtained by a few turns of the windlass. If I am satisfied that the heart is showing any resentment to the effect of chloroform, ether is at once substituted, and should the patient continue to do well under ether, the operation may be concluded with this form of narcosis. However, when there has been only a suggestion of trouble from chloroform, and ether has been substituted for a few minutes, if there are kidney or other lesions which contraindicate the use of the latter, I return to chloroform, always however, with increased precaution in noticing its action on the heart. Another usually alarming symptom of a too profound effect from chloroform is when the pupil is found suddenly and widely dilated, and I always desist from chloroform narcosis when this is observed.

Finally, it is not proper in my opinion to endeavour to bring the patient rapidly under the influence of chloroform. The free admixture of air with the vapour, accustoming the nerve-centres and the heart to the presence of this agent in the blood, is essential to safety. The average time of obtaining a complete narcosis with chloroform in my work is from fifteen to twenty minutes.—*Journal of the American Medical Association, March* 24, 1900.

72.—SIMPLE FRACTURE OF THE TIBIA AND FIBULA.

By R. W. MURRAY, F.R.C.S.,
Surgeon, Northern Hospital, Liverpool.

Anybody who has interested himself in the after-results of fracture of the bones of the leg, must have come to the conclusion that in a large proportion the results, to say the least of it, are unsatisfactory. This is especially so when the fracture is more than usually oblique. I do not know whether any gentleman present has ever had the curiosity to try the ordinary back splint with the vertical foot-piece on himself, but I have, and found the position a forced one and uncomfortable. A forced one for the reason which Mr. Lane was one of the first to point out, namely, that when a person is lying, or for the matter of that when standing, the natural tendency is for the feet and legs to rotate slightly outwards. What then happens when we apply this splint for a fractured tibia and fibula? The foot is securely fixed to the vertical foot-piece, and so prevented from rotating outwards, but the limb above the point of fracture not being so securely fixed, does rotate slightly outwards, and so the broken ends of the bone are not in accurate apposition. Nor is this all, an endeavour is also made to bring the heel in contact with the foot-piece, and the calf muscles thus being put on the stretch, any slight overriding of the broken fragments is necessarily increased. The chances are we have the other uninjured limb as a guide; why not then endeavour to imitate the natural position of rest as far as possible? Another point that strikes me as being very remarkable is that in the case of a fractured femur, where, as a rule the fracture is oblique, extension in some form is invariably applied, and yet an oblique fracture of the tibia and fibula, continuous extension is so rarely applied. In order to carry out this method of extension in fractures of the leg bones I have had a splint made, which is an ordinary Thomas' knee-splint bent so as to relax the calf muscles, and, at the same time, enable one to swing it. How to apply extension when the fracture was low down bothered me for some time, and I have recently had a shoe made, which I have tried, and which answers the purpose admirably. I am convinced that the principle of extension for oblique fractures is a sound one, and it may be some gentlemen present have employed it for many years; if so, I shall be pleased to hear the result of their experience.

But whatever form of splinting you may employ, I feel sure that in a certain proportion of cases of simple fracture of the tibia and fibula, more especially when the fracture involves the lower $\frac{1}{3}$, and is of considerable obliquity, try as you will, you will fail to obtain a perfect result, because it is practically impossible by splints alone to get the broken ends of the bone in accurate position, and to keep them there. If anyone doubts the accuracy of this statement, let him have an x-ray photograph taken of the fracture after the splint has been applied. I wish this was much more frequently done than it is at present, and when there are facilities for doing so I would suggest that it be always done in doubtful cases. How, then, can we secure this accurate apposition? By cutting down upon the broken ends, and so see clearly what we are doing, and after the reduction fix the broken bones accurately together, and keep them there by means of screws, wire, &c. Remember I am not advocating operative interference in every case of fractured tibia and fibula, very far from it; but I do advocate early operative interference in cases of oblique fractures when, after you have placed the broken limb in the best possible position, either your fingers detect, or the x-rays clearly show, that the position of the bones is far from satisfactory.

I have learnt nothing from the investigations of this subject if I have not learnt this, that if a young and healthy bricklayer, a man whose work consists in carrying bricks up a ladder, is unfortunate enough to sustain a simple oblique fracture of the lower $\frac{1}{3}$ of the tibia and fibula, and is treated in the orthodox way, the chances are he will never be able to resume his former employment. I do not say he will never again be able to carry bricks up a ladder, but he will manage it so imperfectly as to be useless to his employer.—*Liverpool Medico-Chirurgical Journal*, *February*, 1900.

73.—ACUTE OSTEOMYELITIS OF THE FEMUR.

By ALBERT ASHTON BERG, M.D.,
Adjunct Surgeon to Mount Sinai Hospital, New York.

[The author first relates a case in a boy, aged eight years, and then makes the following comments :]

The patient came into the hospital suffering with an acute infectious osteomyelitis due to the staphylococcus aureus and induced by the traumatism he had sustained. That no germs were found in the culture taken from the medullary cavity was most probably due to the fact that that particular droplet of serum which was taken up in the loop of the needle happened to be sterile. I am convinced that had several different droplets been taken the staphylococci would have been found. The infection of the blood was undoubtedly from this primary focus in the bone, and the good effects of the operative procedure were seen at once in the subsidence of the pain and cerebral manifestations. Although the local symptoms had been relieved, the general septicæmic state still continued, due to the infection of the blood by the organism and its toxines. I wish here to call attention to the fact that, although only five days had elapsed since the original traumatism and only four days since the first manifestations of the disease, yet general systemic infection had already occurred. Now, as regards the use of the serum in this case, I have already stated my opinions as to when the serum can be expected to be of any value, viz., only in those cases where there is an infection of the blood with the organism itself; and I have also stated that if any good is to result from the serum it must be used very early. In this boy I suspected general infection, and without waiting for a bacteriological report of the blood-culture I at once put him upon the antistreptococcic serum. The next day the pathologist reported that the blood showed the presence of the staphylococcus aureus. I should at once have put the child upon the antistaphylococcus serum, but having commenced with the former I decided to continue its use. Whether or not it had any influence I am unprepared to say, but certain it is that no metastatic focus of suppuration developed in this boy during the period of almost seven weeks that he was under my observation, in spite of the fact that there were virulent pyogenic organisms circulating in his blood. It might be argued "of what value can the antistreptococcus serum be in staphylococcus infections?" This can be answered by mentioning the work lately performed by Emmerich and Low. They proved by experiments on guinea-pigs that the pyocyaneus enzymes were capable of neutralising the effects of the diphtheria toxines; and have even gone so far as to urge the use of "pyocyanose" (the enzymes of the bacillus pyocyaneus) in the treatment of diphtheria in the human subject, in place of the diphtheria antitoxin. Furthermore, as bearing upon the same subject, it is only necessary to recall the long well-known fact, that the enzymes of pyocyaneus work antagonistically to the anthrax organism and its toxines. This antagonistic relation of the enzymes of one organism to bacteria and toxines of different species has been recognised also in the manufacture of the antistreptococcus serum; where the animal whose serum is to be used has been injected with several varieties of both the streptococcus and staphylococcus, such serum being known as the "mixed serum."

My use of the unguentum Credé was not founded on any rational basis, but was given in a desperate case where every therapeutic procedure should be made use of. I do not consider that it had any influence upon the course of the disease.

Now, as to the effect of the organism or its toxines on the viscera of the patient. This is well seen in the pericarditis, the acute degeneration of the kidneys, and the acute degeneration of the liver and spleen, as manifested by their enormous size. The physical signs which led me to aspirate the left subphrenic region I can account for only by the enlargement of the spleen upward instead of downward. The numerous punctures that I made relieved the congestion of this organ, just as the splitting of the kidney capsule relieved the congestion of the latter, and thereby diminished its size, which accounts for the disappearance of the physical signs. What became of the organisms in the circulating blood is well shown by their presence in the urine in almost pure culture, and their excretion in the urine is still further illustrated by their disappearance from it when the blood itself became sterile.

When the boy left the hospital his toxæmia and his blood infection had disappeared. He was then suffering from the effect of these two factors upon his organs, viz., the acute inflammation and degeneration of the viscera.

To Recapitulate.—The points worthy of notice in this are as follows :—(*a*) An infection of the medullary cavity of the femur by the staphylococcus aureus, induced by his traumatism. (*b*) An early blood infection by the same organism and its toxines. (*c*) The use of the antistreptococcus serum, and the absence of any metastatic focus of suppuration in a staphylococcus infection. (*d*) The subsequent elimination of the organism by the kidneys. (*e*) The effects of this organism and its toxines upon the viscera as shown by the acute degeneration and inflammation of the latter.—*Annals of Surgery*, *March*, 1900.

74.—SOME COMPLICATIONS FOLLOWING ON INJURIES ABOUT THE ELBOW-JOINT, AND THEIR TREATMENT.

By H. LITTLEWOOD, F.R.C.S. Eng.,
Surgeon to the Leeds Infirmary.

[From Mr. Littlewood's Clinical Lecture :]

The deformity which I want more particularly to discuss is this, that when the wrist is extended then the inter-phalangeal joints of the fingers and thumb are strongly flexed, so that the tips of the fingers touch the lower part of the palm, and no reasonable amount of force appears to be capable of straightening them, but as soon as the wrist-joint is flexed to a right angle, then the inter-phalangeal joints can be easily extended. When first examined the deformity may be thought to be due to some injuries of the nerves, probably the musculospiral, but this clearly will not account for the deformity, although in some of the cases one or more of the nerves may be involved. The deformity appears always to occur in children after some severe injury about the elbow-joint, and generally after a fracture separation of the lower humeral epiphysis. I have once seen it after a dislocation of both bones of the forearm backwards. The cause of the deformity is, I believe, primarily in the muscular portions of the flexor muscles of the forearm. If the histories of these cases are carefully gone into it will be found that the injuries have been severe and that the flexor muscles have been torn, possibly by the displacement of the forearm backwards with the lower end of the humerus. The torn muscle is replaced by fibrous tissue, and this, contracting, is, I believe, responsible for the deformity. A lump varying in size can be felt in the flexor muscles in the upper third of the forearm, and it has been present in all the cases which I have seen. It is a well-recognised condition in the sterno-mastoid muscle. A swelling is found in about the middle of the muscle soon after birth, which is thought to be due to a tearing of its fibres during parturition; this sometimes produces wry-neck.

I do not believe that sprint-pressure has anything to do with the production of the deformity, although I am well aware that in most cases a sore—pressure-sore—is present; but this is not always so. In some of the cases pronation is limited and in others there is deformity about the lower end of the humerus, the most serious being the presence of a mass of bone at the inner side preventing flexion of the elbow. The removal of this mass generally produces satisfactory results. Can anything be done to prevent this contraction? Of this I am doubtful. If during the treatment, whatever method is adopted, any contraction of the fingers be noticed possibly the flexion-contraction might be avoided by putting the arm in a straight anterior arm-splint reaching to just above the bend of the elbow and posterior rectangular splint extending to the tips of the fingers, so that the fingers could be fixed in the extended position. It would certainly be worth trying. In one very slight case which I saw some time ago frequent massage greatly improved the condition. I unfortunately lost sight of the patient, so I do not know what was the final result. I will now describe the plan of treatment which I adopted in my two cases.

The parts having been made aseptic a tourniquet is placed on the arm, and the forearm is held in the position of supination. An incision about four inches long is now made in the middle line, beginning at the wrist, and the skin is reflected. The superficial flexor tendons are exposed and divided in the following manner. A scalpel is thrust into the middle of the tendon, and it is divided in the longitudinal direction for about one and a half inches. At the lower part of this incision a transverse division of the tendon is made in an outward direction, and at the upper part of the longitudinal slit a similar division is made directly inwards. In this way the tendons are completely divided, and the necessary lengthening can be obtained by sliding the split portions and suturing. The exact amount of lengthening is determined by the ability fully to extend the fingers with the wrist in the extended position. The superficial tendons after divisions are united with long threads of fine silk, so they can be held apart and can be easily recognised for the final suture. The deep tendons are now divided in the same way, the split portions sliding on each other to obtain the required increase of length, and are at once sutured in two places with fine silk. All the deep tendons having been divided, lengthened, and sutured, the superficial tendons are then sutured in the same way. No vessels are ligatured. The wound is closed with silkworm gut, and a uniform firm wool and gauze dressing is applied from the fingers to the elbows, the fingers and wrist being placed in the extended position and the fingers separated by small pieces of wool, and only the tips of the fingers being exposed. The tourniquet is then removed. The operation takes about one and a half hours. This form of dressing is sometimes painful for the first twenty-four hours. If there is pain a small dose of opium or morphia should be given.

The plan of treatment which I have described appears to me to be rational, and from what I can gather from the description of other cases, the results which I obtained will compare favourably with those obtained by other methods.—*The Lancet*, *February* 3, 1900.

75.—INTERNAL DERANGEMENT OF THE KNEE-JOINT.

By W. H. BENNETT, F.R.C.S.,
Surgeon to St. George's Hospital.

Of 200 cases presenting the characteristic symptoms—all cases which could be classified under the head of "loose bodies" being excluded, 112 were cured by temporary rest, massage and exercise ; 83 without the use of any support or other apparatus; but in 39 temporary support was necessary for times varying from three months to one year. In no case in which the rest and massage treatment was commenced after the third attack was sufficient improvement effected to enable the patient, in the absence of operation, to entirely dispense with the use of support of some kind. The cases in which a support was worn permanently amounted to 58. Operation was performed in 27 cases: of these the semilunar cartilage was at fault in 15 only; of the remaining 12 the causes of the trouble were small pedunculated bodies in four instances, and abnormal folds of synovial membrane springing from or near the ligamentum mucosum in eight.

The symptoms usually recognised are: sudden pain, complete fixation or limitation of the power of extension of the leg upon the thigh, followed by effusion into the joint, with tenderness over one or other (nearly always the inner) semilunar cartilage. The only positive sign of the lesion being a displaced cartilage is the occurrence of a deficiency, upon comparing opposite limbs, felt above the head of the tibia on the affected side, in consequence of the displacement of the cartilage freely inwards. Relief may follow almost immediately upon spontaneous reduction of the displaced cartilage or nipped structure, or it may be effected by manipulation; or in some cases, principally the slighter ones, manipulation not only fails to give relief but may cause an increase of the symptoms.

The causes to which these symptoms are due are generally classified as follows: (1) Displacement of a semilunar cartilage. (2) The nipping of folds or shreds of synovial membranes between the ends of the bones. (3) Loose or pedunculated bodies in the joint. To these, however, Bennett adds a fourth, viz.:—Bruising of the peripheral edge of a semilunar cartilage and its attachments without displacement or necessary loosening, the immediate result of the lesion being a local effusion of blood (subsequently reinforced by a certain amount of inflammatory exudation), a portion of which insinuating itself between the bone-ends acts as a foreign body. This is a new idea, and Bennett believes that it fully explains the train of symptoms in the majority of the milder cases of so-called "slipped cartilage."

Treatment may be conveniently considered under the following heads:—

(1) *Treatment by Temporary Rest, Massage and Exercise.*—In the exaggerated cases repeated attempts may be made, under chloroform if necessary, to effect "reduction"; but in the slight cases the attempt to restore complete extension should not be repeated if it fails on the first occasion. In all cases in which manipulation has effected reduction (severe cases), or has failed

to reduce the deformity (slight cases), active movement should be prevented by complete temporary rest by fixation on a light splint for four days to a week—until the effusion in the joint has subsided. Massage of the joint may, however, be commenced at once; it hastens absorption, and obviates the tendency to flaccidity of the capsule of the joint, which is a fruitful cause of failure in these cases. Upon the disappearance of the effusion exercise by passive movement is commenced, care being taken that no rotatory motion is imparted to the leg. The passive movement without rotation, whilst it does not disturb in any way the process of refixation, prevents any troublesome adhesion in the joint itself. Slight active movements are begun in about a fortnight, and at the end of three weeks from the date of injury the patient begins ordinary walking exercise. Massage must be kept up for three weeks to six months or more—until the capsule of the joint is restored to its normal condition of tension.

(2) *Treatment by Apparatus.*—All forms of support or apparatus should be avoided, if possible, for they tend to render permanent the wasting of the thigh muscles. The cases in which the use of supports is justifiable are limited as follows:—(1) Cases in which, for unavoidable reasons, the rational treatment cannot be carried out; (2) cases in which the rational treatment fails to restore the normal tension of the knee capsule, or those in which abnormal lateral mobility remains to any marked extent in spite of treatment; and (3) cases in which recurrent attacks of semilunar displacement have occurred frequently,—operation having for some reasons been rejected. The object to be obtained by artificial support is the prevention of rotation of the leg at the knee. Bennett thinks that the small spring "trusses" are useless; but I have found Paget's spring truss of much value in some of these cases.

(3) *The Operative Treatment.*—In many cases it is practically impossible to determine the real cause of the trouble in intractable cases without an exploratory operation; but as many cases are curable without operation, the explorations should be reserved for (1) cases in which non-operative measures have failed; (2) cases in which general flaccidity of the joint, as shown by an abnormal amount of lateral movement on manipulation, is in excess of the other symptoms; (3) grossly neglected cases in which, from long continued inflammation, the joint has assumed the aspect of pulpy disease; and (4) in certain cases of expediency (soldiers, &c.). Bennett thinks that nothing short of removal of the offending cartilage is efficient; but the operation is not without risk, and is not always perfect. An L-shaped incision is all that is necessary to give access to the part. Operation should not be undertaken while fluid is present in the joint. After operation massage of the limb above and

below the knee is of importance in connection with flaccidity of the joint capsule, and passive movements of the knee may be commenced at the end of the first week. — *From Mr. James Swain's Summary in the Bristol Medico-Chirurgical Journal, March*, 1900.

76.—ELECTRICAL BURNS.

By J. M. ELDER, B.A., M.D., C.M.,
Surgeon to the Montreal General Hospital.

[The cases and other parts of Dr. Elder's paper are omitted.]

In the *Philadelphia Medical Journal*, January 29, 1898, Dr. Sharpe, of St. Louis, Mo., surgeon to several large electrical companies, gives an excellent summary of the chief clinical features of electrical burns. Dr. Sharpe's remarks coincide, in the main, with my own observations in the two cases I shall cite, and therefore I shall quote Dr. Sharpe's conclusions, adding, as I go along, any differences I may have noticed.

(1) *As to appearance.*—"The burn is at first dried and crisp (even charred in many cases), the site being excavated and bloodless, with a surrounding zone of pallor. Within 36 to 48 hours, this picture will completely change; oozing will replace the dryness, and the pallid zone will become hyperæmic." In other words, I would remark, all the symptoms of moist gangrene will set in, followed by rapid formation of slough with a peculiarly fœtid odour. Much the same sort of picture, at first, as we are familiar with in severe frost-bites.

(2) *Pain.*—"Is as a rule very moderate, in some cases practically absent; from 24 to 48 hours after contact it is usually present." From this view of Dr. Sharpe's I am forced to dissent. It may be true in very slight burns, as I have no experience of these, both of my cases having been severe; but both my patients suffered very greatly, all through the long period of sloughing, needing opiates constantly to enable them to get a little rest.

(3) *Shock.*—"Electric burns differ from other burns, in that the systematic shock is from the contact—the shock from the burn, *per se*, being nil." My experience differs here again. I found that in electrical burns, as in others, the shock was considerable, depending upon the amount of tissue involved, and further, that the shock continued for a much longer period, due, no doubt, to the prolonged sloughing of adjacent tissues.

(4) *Prognosis.*—"In regard to time, electric burns average 1½ to 3 times as long in recovery as do other burns. In severe cases, even five times as long. Prognosis of result is as uncertain

as time-prognosis ; . . . . usually, both mild and severe cases are tedious and prolonged." With these views I heartily agree. The tissue lost is the prolonged sloughing, which no treatment serves to hasten—not even amputation—and one must wait patiently until healthy granulations replace the fœtid sloughs before any prognosis as to time, or as to result, should be given ; after that, as I shall show you, we may reduce the time very much by skin grafting.

(5) *Subsequent manifestations.*—Dr. Sharpe says, "the rule of the electric burn, is, that it changes within 36 hours from contact, to a serum-saturated area, with disintegrating walls and floor, progressing to profuse purulent secretion, with continued tissue degeneration. This degeneration will frequently involve nerve, muscle, tendon, joint capsule, ligaments, articular surfaces, periosteum and bone itself; exuberant granulations springing up, the entire plain bathed in pus, completing a picture alike distressing to patient and surgeon." So far as I have been able to observe the sloughing affected mostly the muscles and blood-vessels. The bones, other than those acutely charred, not being markedly affected, and I saw no evidence of osteo-myelitis higher up. The nerves, too, appeared actually sensitive, but the great sloughing suggested some great interference with the trophic fibres to a considerable distance from the point of contact. As regards the blood-vessels, the walls appeared to be affected for a considerable distance up the limb ; and during the period of sloughing, one must constantly guard against secondary hemorrhage. This untoward accident is also favoured by the fact, that the blood showed no tendency to clot in these burns ; and this, I understood from Dr. Wyatt Johnston, is a well-marked post-mortem feature of the blood of those who have been killed by electricity. In one of my cases, while dressing the wound, an artery spurted very freely in a granulation at some distance up the limb from the point where I had amputated some weeks previously. My experiences, then, would lead me to conclude, that the ascending degeneration following on severe burns by electricity, affects chiefly the striped muscle tissue ; and that the original area of injury gave one very little idea as to how far the process would ultimately extend.

And now as to treatment : —I quite agree with the author quoted when he says, "it is very unsatisfactory." I pursued the plan of keeping the parts immersed in a warm carbolic bath of 1-100 strength. Even then the disagreeable odour was most marked, and I know of no class of cases, except cancrum oris, so difficult to disinfect. The bath was carefully watched for any indication of hemorrhage, as the necrotic process went on ; an Esmarch was left at the head of the bed, with instructions to apply it at once, if bleeding began. I mention this because I had hemorrhage in both cases, and, as the patients were both greatly reduced in strength by the sloughing, with its consequent fever and pain, I believe that the prompt application of the Esmarch by the attendant turned the scale in the patient's favour; and enabled both to withstand the shock of the subsequent amputations. Next, when forced to do so by secondary hemorrhage, or by a well marked line of demarcation having formed between the necrotic and the apparently sound tissue, it is our duty to remove the sloughing tissue even if it means an amputation. And here I wish to emphasise this point, that the amputation should not be done as in ordinary cases of burns or injuries requiring operative interference. Ordinarily, if we form our flaps well above the line of demarcation, we may sew them up and expect primary union. But not so here; we must expect sloughing in the stump; not perhaps of the skin itself, but of the muscles even as high as their attachments. We should simply excise the necrosed portions along the line of demarcation, and then leave the wound open, to be dressed by moist antiseptic dressings. In both of my cases of amputation through the forearm, I did a simple circular amputation, made no attempt to form flaps, and the stump had to be left to granulate, and subsequently was skin-grafted. I am convinced from a former experience that any attempt to sew up the wound, in the ordinary way, would have resulted disastrously to the patient; as after the amputations whole muscles come away and large areas of skin above the point of amputation sloughed. There is altered nutrition—a local atrophy—due to the influence of electricity on the tissues, and one, therefore, cannot count upon the vitality of the flaps. Not uncommonly, owing to the retraction of the soft parts resulting from sloughing, it is necessary to resect the bone before skin-grafting. The result of those excised where no skin-grafting was resorted to, was similar to that obtained in other largely denuded areas; and the skin-grafting gave good results.—*Montreal Medical Journal, January*, 1900.

77.—GONORRHŒAL ARTHRITIS.

By James Stewart, M.D.,
Professor of Medicine and Clinical Medicine,
McGill University, &c.

[From Dr. Stewart's paper, which is based on forty-eight cases:]

Of the forty-eight cases only six were women. All the cases were young adults, the average age being about 30 years. The only exception was an old man of 69 years. Only two asserted that they had suffered from inflammatory rheumatism in early life and one from chorea. Only three had a decidedly rheumatic history. It was, however, clearly shown that one attack of gonorrhœal rheumatism predisposed to another in case of a fresh infection of the urethra, as no less than 15 cases, *i.e.*, nearly one-third of all, have a history of previous attacks of gonorrhœal arthritis. Only four cases gave a history of exposure, overwork, or intemperance, to account for the extension of the trouble from the urethra. As to the gonorrhœa, it is impossible to draw any general conclusions; to judge from these cases arthritis is as liable to follow a mild attack as a severe one. Twenty-six claimed that it was their first attack of gonorrhœa. Some of the others had had repeated attacks of gonorrhœa before arthritis occurred. As to the stage of gonorrhœa, there is the same difference. Eighteen cases occurred in the acute stage before the end of the third week of the discharge, twenty-two occurred later in the disease, and in eight cases, mostly women, it was impossible to ascertain the stage of the urethritis. In five cases the arthritis occurred more than a year after the onset of the gonorrhœa, which had become a chronic gleet. The urethral condition of the patients while in the hospital is of interest. Although most of the patients entered the hospital late in the disease, *e.g.*, twenty-four entered more than a month after the onset of the arthritis, almost all were still suffering from urethritis in some form. In twenty-five, there was acute or subacute gonorrhœa with visible discharge; in fourteen, some form of chronic urethritis or stricture; and in only four was the genito-urinary system found to be normal. Possibly this continuance of inflammation at the source of infection will account for the numerous relapses which characterised many cases. The cases differed widely in the mode of onset. In four cases, the onset was like that of any acute fever, the arthritis only becoming a marked feature after two or three days. Ten cases were characterised by a sudden onset of pain and inflammation in one or more joints, generally occurring at night. In the remaining thirty-four the onset was more or less gradual with pain in some one joint, gradually becoming worse, and usually extending to other joints in succession, but not subsiding in the first joints as others were involved.

The commonest form was what might be called the polyarthritic; of this there were twenty cases. These resembled subacute rheumatism. Inflammation began either suddenly or gradually in one joint, and extended to others with moderate fever and constitutional disturbance. Most of these cases when admitted early did well, but at least half were left with partial ankylosis of some of the joints involved. There were twelve chronic cases, mostly with ankylosed joints, two having hydrarthrosis. These cases were only slightly benefited by treatment. They all began as polyarthritic or monarthritic forms. Of the latter there were six acute cases in the hospital. These resembled the first group except that only one joint was involved, or else the rheumatism subsided in other joints in a few days and remained in the one joint. Of these six, three were cured; but three were left with more or less damaged joints. There was a group of seven cases where the infection was confined to the heels and soles of the feet without any joints being affected. These all did well, but some were left with some pain on walking.

Lastly, there were three cases which might be termed septicæmic, marked with fever and grave constitutional disturbance with involvement of several joints. As to the frequency with which the different joints were involved, taking all the cases together the knees were the most frequently attacked, being involved in twenty-nine cases. Next to this is involvement of the heel and plantar fascia, in eighteen cases. Then, in order, the ankles, the small joints of the feet, the elbows, the shoulders, the wrists, and the small joints of the hands. The joints least frequently involved were the vertebral, in five cases; the temporo-maxillary in four; the sterno-clavicular in three; and the thro-arytenoid in one case.

The complications were very few; the commonest was endocarditis. This was present in eight cases. In one the lesion was an old one and probably associated with a former attack of chorea. The remaining seven showed apparently recent affection of the mitral valve; in two, the endocarditis was noted to occur in the wards. Of these seven cases five were what is described above as polyarthritic, and two were septicæmic. There was no case of malignant endocarditis. The next most common complication was iritis occurring in four cases and leaving adhesions in one. Conjunctivitis occurred in two cases. In these cases the secretion did not contain gonococci and no bad result was left. Phlebitis of the left femoral vein occurred in one case. All the above complications occurred in febrile cases with several joints involved.

Treatment and Results.—As a whole the results were unsatisfactory. Although no deaths occurred, only nine were discharged cured. Thirty-five were improved; and in four cases, all chronic ones, there was no improvement. Fully half the cases left the hospital with one or more joints so damaged that complete restoration was not likely to occur. One explanation for this poor showing is that but few cases entered the hospital early in the disease. Only four entered during the first week and twenty-four entered more than a month after the onset. All the nine cases cured entered the hospital early in the disease. Of these, four were of the polyarthritic type, one monarthritic, and in two the heels and plantar fascia only were involved. The average duration of treatment in all cases was thirty-four days. As to the details of treatment—all acute cases were treated with strict rest in bed and low diet. As has been stated above, cases treated thus ultimately did better than those cases which entered late in the disease. No remedy used internally was found to be of much value. Salicylates were given in full doses in twelve cases, but in no case was any marked reduction of temperature or relief of pain noticed. Salol, potassium iodide and alkaline mixtures were also given without any special result. Tonics were given in some of the chronic cases with some improvement to the general condition. Hot air baths by the Tallerman-Sheffield apparatus were used in thirty-six cases, in some cases in combination with other modes of treatment. By this apparatus the affected joint is exposed to dry air heated to about 300 deg. F. for about half an hour. This is repeated daily or every second day. Under this treatment the general condition of the patient was always noted to improve, though this may have been due to the improved hygiene of hospital life. There was an average gain in weight of about one pound a week. In practically all the cases of mild or subacute arthritis the baths caused marked relief of pain and greater freedom of movements for the time being. The action could not be termed specific, as the majority of cases were left at the end of three or four weeks' treatment with some stiffness of the joints and pain on exertion; but certainly the results were better than those obtained by ordinary local measures. In chronic cases the relief of pain was also a marked feature in almost all cases. In some cases of partial fibrous ankylosis there was increased mobility; but in half the cases there was none. The two cases of hydrarthrosis were not benefited.

As to other local measures, hot fomentations were used in most acute cases. They afforded great relief of pain in all cases. In four cases, where only one joint was involved, fixation by splints was found to afford greater relief than fomentations. Blisters were used in some more chronic cases, and in some are said to have relieved the pain, but do not seem to have any other action. Painting with iodine was also used, but with no good results whatever. Massage in some of the chronic cases was found to give increased mobility.—*Montreal Medical Journal*, *March*, 1900.

78.—TRAUMATIC ANEURISMS.

[From Mr. C. T. Dent's surgical notes from South Africa :]

A fair number of traumatic aneurisms of large vessels, such as the femoral and the popliteal, have been met with, but these present no special feature of comment. Hunter's operation has been generally practised, and the results have been on the whole very satisfactory. Occasionally, as when the popliteal has been apparently wounded close to its bifurcation, the aneurism has been dealt with locally, but I have not met with any cases in which it was judged expedient to dissect out the aneurism—a needlessly severe proceeding in some of the cases in which in civil practice it has been performed. The remarkable rapidity with which the collateral circulation is re-established in these young healthy soldiers is very striking—a condition which, however favourable to the integrity of the limb, materially enhances the difficulties against which the operator has to contend.

A patient in the Fort Hospital, who had been shot through the right shoulder, the bullet (a Mauser) making its exit through the axilla, showed a well-marked traumatic aneurism of the second portion of the axillary artery. The bullet wounds healed immediately ; and, indeed, the scar of the entrance wound was barely visible some three weeks after the wound, which had been inflicted in the fighting by the Tugela River, had been received. The aneurism was well marked but small, the sac being capable of holding an ounce or so of blood. Pressure in the subclavian artery at once controlled the pulsation. The aneurism, being situated in the loose cellular tissue of the axilla, seemed likely to increase. A proposal to deal with aneurism by cutting down in the axilla was very properly overruled. The third portion of the subclavian artery was tied, eventually, with a silken ligature drawn tight. The venous hemorrhage was rather free at the operation. The case did perfectly well, and a fortnight after the ligature the aneurism was scarcely to be felt. A case such as this could probably have been readily cured by compression.

As a curiosity, and showing how even small vessels may be partially divided by a clean cut by Mauser bullets, may be cited the case of a man of the 1st Border Regiment. The Mauser bullet in this case entered an inch behind the angle of the lower jaw, and 1 inch below the lobe of the ear on the left side. The exit wound was about half an inch above the upper margin of the orbit, in a vertical line with the external angular orbital process of the frontal bone. The facial bones had been traversed and broken up to some extent, but without any disfigurement. The bullet had passed through the right eyeball, and the remnants of this had been removed. It was doubtful whether the bullet had actually penetrated the cavity of the skull. The man lay unconscious for some hours after receiving the wound, and had vomited blood on two occasions. The skin wounds in this case had healed in the most typical fashion, with almost invisible marks, in which, however, close examination revealed the crescentic scar so frequently seen when the bullet enters at a right angle to the plane of the skin. The man did well, but his temperature remained high, though there was nothing evident to account for this. Probably the raised temperature was due to former attacks of malarial fever. It is an everyday experience to find wounded patients with high or irregular temperatures when their wounds are progressing perfectly. The wound may run a perfectly aseptic course, and there may be no symptoms whatever of malarial fever, but the temperature remains irregular. Often this is of no consequence whatever, but it may, as in this instance, lead to doubt. There had been at the time one or two fresh cases of enteric fever, obviously originating at Maritzburg, and some of the symptoms pointed to that disease. Again, there may be serious mischief going on in the head, for there was some tenderness over the frontal bone at the seat of the wound. A swelling was then noticed by the parotid gland, just posterior to the ascending ramus of the jaw on the left side, and it was thought probable that an abscess was coming forward at this point, thus accounting for the symptoms. But the swelling on careful examination, proved to be a minute aneurism of the temporal artery. It was little larger than an almond. Pressure on the carotid controlled the distensile pulsation at once, and allowed the sac to be emptied. The temporo-maxillary artery was not involved, and the pulse in the anterior and posterior temporal arteries was quite unaffected. No treatment was adopted, for the man, who was to be invalided home to England, suffered no discomfort from the aneurism, and had ascertained that affections of the kind might at examination time be turned to profitable advantage. It appeared, however, likely that the aneurism would be cured by the method of manipulation, formerly so much advocated by Sir William Fergusson, inasmuch as the case excited considerable interest.

In No. 4 General Hospital was a remarkable case in which the temporo-maxillary vein was probably implicated. The bullet entered over the upper part of the ascending ramus of the jaw, apparently drilling the bone without fracture. An aneurismal swelling could be felt just behind the ramus, extending inwards to some depth. There was a very loud and characteristic buzzing thrill, audible for some distance over the skull. It was uncertain whether the internal maxillary itself or some one of its branches was implicated. The condition excited little distress, and no operative treatment had been adopted.—*British Medical Journal, April* 28, 1900.

79.—TREATMENT OF TUBERCULOUS GLANDS.

By W. Watson Cheyne, M.B., F.R.C.S., F.R.S.,
Professor of Surgery, King's College, London.

[The author thus speaks of suppuration occurring in these glands :]

The conditions under which one meets with suppuration in the glands are various, and we may arbitrarily divide them into three groups. (*a*) The abscess in the gland has burst through the fascia, but only forms a comparatively limited swelling under the skin. In these cases I advocate complete excision of glands, abscess, &c., in the manner to be presently described, an oval piece of skin being taken away over the abscess. In these cases it is usually necessary also to remove the jugular vein. Care should be taken as far as possible to avoid puncturing the abscess, although in many cases, if large, it is very apt to burst, and pus escapes over the wound : even when this takes place it is very remarkable that I have never noticed tuberculous infection of the wound. I have, of course, always washed the pus away immediately, but even doing that, if we judge from the result when a cancerous gland bursts, it is surprising that, in some cases at any rate, the wound does not become tuberculous. (*b*) The abscess in the gland has burst through the fascia, and formed a large swelling under the skin with marked thinning of the skin over it. Under these circumstances the removal of the whole of the thin skin, which would be necessary in complete excision, would leave a gap which it is difficult to close, and the scar of which would be apt to stretch afterwards ; hence, I prefer in these cases to open the abscess in the first instance, and then later on (in three or four weeks), when the skin has recovered and only a sinus is left, to carry out complete excision. In some cases it is well to scrape out the gland and abscess in the first instance instead of merely opening it, and it may be that this will suffice for a cure, but if fresh swelling appears excision should be performed as soon as the skin has recovered. (*c*) An abscess is present which has not yet burst through the fascia. Here one may in many cases wait and allow the abscess to increase till it is probable that the gland has become completely broken down, and then open and scrape out the abscess, inject iodoform and glycerine, and stitch up the wound again. A very small incision behind the sternomastoid frequently suffices in these cases, and the resulting scar is practically invisible. Cases, however, in which this result can be obtained are not very common and sometimes a sinus remains, and if it does will not heal, and if fresh glandular enlargement occurs excision should be performed.

Enlarged glands with sinuses. Here also excision is the best treatment, unless the sinuses are so numerous that the operation is not practicable The operation is no doubt somewhat more difficult, but if it be carried out in a systematic manner I have never failed to complete it. Where the sinuses are too numerous for excision, thorough scraping and the subsequent application of undiluted carbolic acid is the best treatment.

[Mr. Watson Cheyne also makes the following remarks :]

Excision of tuberculous glands is an extremely satisfactory operation if carried out sufficiently wide. If the enlarged glands alone are removed, recurrence is very apt to take place, and this is more likely to happen if suppuration occurs in the wound. Under the latter circumstances the glands which are infected but not excised tend to enlarge and undergo suppuration. I cannot emphasise too strongly--that in operation on tuberculous glands one must not be content with shelling out the infected glands, but must remove the whole of the glandular area, whether the glands are visibly affected or not. To shell out the enlarged glands is only to remove the most affected of the glands, leaving behind numerous others which are also affected but not markedly enlarged. It does not, of course, necessarily follow that these glands left behind will enlarge ; but they are more especially likely to do so if the operation has been an extensive one accompanied by much tearing of the tissues, and therefore with increased lymphatic flow, or accompanied by suppuration or even a less degree of inflammation. Under those circumstances the glands swell up and the tuberculous disease makes progress in them and generally forms fresh masses. And it must be borne in mind that a second operation in the same region is very much more difficult than the first on account of the cicatricial tissue distorting the relations of the parts. Hence, where glands are removed for tuberculous disease, one must map out and remove all the fat-containing small glands in that particular lymphatic area in addition to the enlarged ones.—*Medical Press and Circular, December* 20, 1899.

80.—CHRONIC WRY-NECK OR TORTICOLLIS.

By J. JACKSON CLARKE, M.B.Lond., F.R.C.S.,
Surgeon to Out-patients at the North-West London and City Orthopædic Hospitals.

[From Mr. Clarke's paper :]

Congenital Wry-neck, and the Chronic Wry-neck of Childhood.—The main feature in both these conditions consists in undue shortness (or "contracture") of one sterno-mastoid muscle, with which may be associated shortening of other muscles. In true congenital wry-neck this shortness is produced, in all probability, in a manner similar to other congenital "pressure-deformities," such as club-foot. If a part of the body during intrauterine life becomes for a sufficient period of time accidentally more or less fixed in one position, the muscles, bones, and other tissues will accommodate themselves to the unusual circumstances, and their form and development will be modified and a deformity produced. Chronic wry-neck may date from birth, and owe its origin to an injury to a sterno-mastoid muscle and extravasation of blood into the muscular substance with subsequent cicatrisation taking place whilst the child, to avoid pain, unconsciously holds the head to the side of the more damaged muscle. Syphilitic, septic, rheumatic, and other forms of muscle inflammation, if unilateral, may also cause wry-neck of a chronic character. More commonly this form of wry-neck occurs in childhood, though it may of course happen in later life, for in this case the shrinking of the muscle is due to organic changes in its substance, produced by pathological conditions that may appear at any period of life. In another set of cases of chronic wry-neck, the changes in the sterno-mastoid muscle are secondary to conditions such as cervical glands inflamed by tubercular infection or from disease of the throat or middle ear, and other conditions that lead the patient to assume the attitude of wry-neck in order to shield the affected glands from pressure. This posture, kept up for many months, may produce a pronounced condition of wry-neck.

Wry-neck is but a symptom, and before deciding upon any plan of treatment it is necessary to distinguish clearly the pathological nature of each particular case. The involuntarily oblique position of the head which constitutes the deformity known generally as wry-neck is a symptom that may be produced in a great variety of ways, and before deciding that the cause of the symptom is shortening of one or other sterno-mastoid, many other possible causes must be excluded. The more important are (1) changes in the cervical spine, whether tubercular, rheumatoid, or rachitic; (2) paralysis; (3) involuntary spasm; (4) hysteria; and (5) certain ocular defects. The more acute so-called "rheumatic" forms of wry-neck need not be mentioned, since only chronic cases are here considered.

In one case the condition had been present for two years, and was attributed by the mother to an attack of diphtheria. There was no evidence of any affection of the cervical spine, or of any ocular defect. Hysteria and spasm were excluded by the persistence of the deformity when the patient was fully anæsthetised. I decided that the case was one of contracture of the left sterno-mastoid, and I divided this muscle through a short horizontal incision a little above the inner end of the clavicle. The head was kept for a few weeks in the corrected position by means of a light steel support. I have had the patient under observation now for over a year since the operation, and there is no tendency to recurrence of the deformity.

Congenital cases may be brought for medical advice at any age from a few days upwards, and the question arises as to the age at which the operation should be done. This, in my opinion, should in the case of young infants, in a measure depend on the degree of the deformity. In severe cases I have operated with good results within the first year of life, but in slighter cases I prefer to wait until the child is over two years of age. If the treatment is too long deferred, the secondary deformities, facial asymmetry and fixed scoliosis, are established. The modification of nutrition that leads to the diminution of growth in size of the tissues of the affected side of the face and head is a somewhat complex adaptive physiological process, and may be compared to that which is observed in the individual vertebræ in old-standing cases of scoliosis.

The scoliosis that is observed in cases of wry-neck that date from birth or early childhood demands a few words of comment. It is a physiological adaptation to an abnormal attitude, determined by the altered position of the head. Briefly put, Lorenz's view in explanation of this is as follows:—In severe cases of wry-neck a total scoliosis with its convexity away from the affected side takes place; when the deformity is slight, a curve convex to the sound side forms toward the sound side in the cervical and upper dorsal region, and a curve in the opposite direction in the lower dorsal and lumbar region.

The association of congenital wry-neck with scoliosis is of practical importance, because in severe scoliosis the cervical region of the spine becomes bent, and so scoliosis—a condition depending primarily on bone changes—may be mistaken for wry-neck depending on contracture of a muscle, and as the result of faulty diagnosis a useless operation may be performed. There is still one other practical bearing of the associated deformities. When scoliosis is present in a case of wry-neck, it is desirable for the patient to wear instruments after operation rather longer than is necessary when no marked scoliosis is present. Daily exercises are of course required, as well as the use of an instrument in such cases.—*Clinical Journal, February* 14, 1900.

81.—AIR EMBOLISM DURING SURGICAL OPERATIONS.

By J. Basil Hall, M.C. Cantab., F.R.C.S. E.,
Visiting Surgeon to the Bradford Union Hospital.

[From Mr. Basil Hall's paper :]

The results of investigation may be summed up briefly as follows :—

(1) *The Causation of Entry.*—An opening into a vein, which for some reason, anatomical or pathological, fails to collapse and remains as a rigid tube ; into this opening air is sucked during the movement of inspiration. This condition, the conversion of a vein into a rigid tube, is the essential factor in the occurrence of air embolism.

(2) *The amount of air necessary to cause death varies with the size of the animal and the mode of infection.*—The larger the animal and the more gradual the infection, the greater the quantity that can be borne with impunity. Erichsen injected three cubic inches into the jugular of a dog without causing death. Recovery may take place after the occurrence of the most alarming symptoms, and on the other hand death may occur after an interval of several hours, or even days. Ray demonstrated that in large animals the quantity injected without causing symptoms may be very large.

(3) *Operations in the body where the accident has occurred.*—Of all wounds, those about the head, neck, and shoulder have been by far the most frequent in which air embolism has taken place ; indeed, so much so that most surgeons hardly consider the possibility of such an accident except when operating in that region. The axilla has, I believe, been the most frequently recorded site next to the neck and shoulder, and always, so far as I am aware, on the occasion of operations for mammary tumours. Probably the raising of the arm, thus rendering the tissues tense, is largely responsible for this.

(4) *The Conditions found post mortem.*—Air is found in the right auricle, sometimes greatly distending it, and in the whole right side of the heart is a frothy mixture of blood and air. Air

bubbles may also be observed in the pulmonary artery and its branches.

(5) *The Symptoms of Air Embolism.*—In briefly reviewing these I cannot picture them better than by relating the following case, in which embolism occurred during the removal of a recurrent growth of the breast :—

The mamma, together with the pectoral muscle, had been turned back according to Halsted's method, and a somewhat extensive mass of glands was being dissected out at the apex of the axilla. A small vein had been cut across, so insignificant in size that pressure forceps were not applied at the moment. A loud sucking noise was heard, precisely like that produced by a small puncture in the pleura. There were three distinct inspirations of air before the vein was clamped, as the patient was breathing rather rapidly at the time, the ether inhaler having just been reapplied after an interval for refilling it. Within a few seconds there was a sudden stoppage of respiration, followed by four or five inspiratory gasps; extreme pallor overspread the face, the pupils dilated widely; there was a slight tetanic spasm of the body and risus sardonicus of the face. The pulse became fluttering and imperceptible, but the heart continued beating rapidly and tumultuously, whilst a distinct thrill was perceptible to the hand placed over the præcordium. The muscles relaxed, all respiratory efforts ceased, the heart beats became imperceptible and the patient was to all intents and purposes dead. The whole period, from first hearing the entrance of air to the final stoppage of respiration, was not longer than fifteen or twenty seconds. Artificial respiration was at once begun and vigorously carried out, whilst a large dose of strychnine was administered hypodermically. After an interval of a few minutes a spontaneous inspiratory effort occurred. This was repeated, and eventually respiration was restored after a lapse of a quarter of an hour. The operation was then hurriedly completed. The patient remained in a somewhat critical condition for an hour or two, but ultimately made a good recovery.

The suddenness of onset and the extreme rapidity with which the fatal result takes place renders these cases the most tragic of all surgical catastrophes. Nearly 50 per cent. die immediately, that is to say, in a few seconds from the onset. Several die at a later period, varying from a few hours to several days. It has been said that when once respiration fails the prospect is a hopeless one. In many of the cases of deferred death, bronchitis and pneumonia set in.

As regards the treatment of air embolism, prevention is better than cure, and the surgeon who has once experienced such an accident will take pains to clamp all veins prior to dividing them, when operating in the dangerous regions, more especially when the vessels are being dragged upon by the necessary manipulation of the part. Should the accident occur, it is important to bear in mind that inspiration of air cannot occur in a wet wound, and therefore the first thing to be done, if the opening cannot be seen, is to flood the wound with any lotion or water that may be at hand. This treatment was apparently first recommended by Treves, and is exceedingly efficacious in checking entry before the quantity drawn in is sufficient to cause serious results. Secondly, vigorous and persistent artificial respiration must be persevered with, together with the injection of cardiac stimulants. The fatal result may be almost immediate, the heart being suddenly brought to a standstill. If immediate syncope does not occur and cardiac distress continues, bleeding, to relieve the right side of the heart, will do most good. In the cases in which death is deferred for a few hours, the patient dies from heart failure, and the right side is found distended after death. Bleeding, undertaken with a view of emptying the air from the veins, is a useless procedure. Latterly Bégouin has recommended aspiration of the right ventricle by capillary puncture. He produced air embolism experimentally in dogs, and relieved the symptoms of asphyxia in this manner. Tracheotomy and inflation of the lungs has also been recommended, but it is doubtful whether this procedure possesses any advantage over artificial respiration if the latter be efficiently carried out.—*Quarterly Medical Journal*, *May*, 1900.

82.—CLINICAL NOTES ON CANCER.

By Duncan Macartney, M.A., M.D.,
Surgeon, Cancer Hospital; Assistant Surgeon,
Western Infirmary, Glasgow.

[From Dr. Macartney's paper :]

Cancer of the female breast and epithelioma of the male lip are the two typical forms of the disease as we meet it, and to them mainly my remarks will refer. In the matter of diagnosis, age is certainly an indication so far; the commonest period at which cancer of the breast occurs is round the menopause. But there is a large range. I have operated on a patient aged 29 with undoubted cancer. Just at the time of writing I learned of the death of one of my patients in the Cancer Hospital, well over 80 years of age, who has been the subject of cancer of the mamma for six years. The case was inoperable when she came to me. Cases are recorded of younger and older women than my experience gives; so that the age of the patient can only be used as a small factor in solving your problem. So also with the subjective symptom of pain. In the early stages of the disease, when diagnosis is most important and most difficult, little reliance need be placed on this point. The quality and intensity of pain depends on the person who suffers in any ailment ; what one would call not painful another would term excruciatingly so. Certainly the lancinating pains in our text-books rarely apply except in the later stages. The patient's mind is worried by the simple existence of the unaccountable lump in the part, in many cases accidentally discovered after it has made considerable progress. Retraction of the nipple and the saddle-leather skin are two signs that are of large importance when you find them. They are almost pathognomonic. But their absence in no way excludes the cancer-theory of a tumour. If the growth begins in the body of the gland, involving as it must do the milk-ducts, retraction sets in early ; if, however, it be at the margin of the gland, it may go its whole course and leave the nipple in its normal position. So with the saddle-leather skin—this sign depends on the nearness of the tumour to the surface ; in fact, the pits in the skin are due to the contractile action of the fibres composing the stroma of the tumour.

The most trustworthy signs are the hardness of the tumour and its want of definite borders. You can feel the tumour and estimate its hardness by catching it between the fingers and thumb and pressing these together. But that is not the better way. Take the palm of the hand, moistened in warm water, and press it against the breast to get the tumour between the sensitive hand and the hard background of the chest wall. Give the hand a gentle circular movement, and the hard, wicked feel of the tumour is brought out. With finger and thumb feel all round it, and the indefiniteness of margin is observed—so unlike an enlarged gland or a fatty mass or any innocent encapsuled growth. Doubtful cases have been sent to me which turned out to be (1) abscess, (2) adenoma, and (3) several cases of chronic mastitis. The abscess was hard and circumscribed and fairly freely movable. The history, too, was of a definite blow, date and assailant given, so that there was little real difficulty. The adenoma, which by the way is a comparative rarity, was quite definite in its margins, and, though the patient's age was 45, my mind was easy about her. It was as definite as a nut and hulled out like one. The chronic thickening is usually deceptive. If felt between fingers and thumb it is vastly like a scirrhus, but if pressed by the open hand against the thorax-wall the tumour disappears. You feel no hard knot, just a confused area of matted but not malignantly hard tissue. Further, in these chronic thickenings, the patient is usually of the hysterical kind, and gives her story in good set terms of excruciating and polysyllabic pain. She is, besides, evidently not in good health, anæmic and careworn, which brings me to another important point in cancer-diagnosis in the early stages. With few exceptions, cancer affects women who have never had previous illness, and men who never knew what a headache was.

In some cases, particularly in cancer of the abdominal organs and other parts where examination by the eye is not easily feasible, there are certain points that one can always rely on. I refer first to loss of weight. In no condition, apart from acute wasting diseases of an inflammatory type, do we find such rapid loss of weight as occurs in the advanced stages of malignant disease. This loss of weight alone would differentiate the malign from the benign tumour in any region. Coincidently with this loss of weight, we have another sign of malignancy in the rapidity of the pulse—90, and upwards. In addition to the rapidity (with occasional irregularity) there is present a marked degree of compressibility that seems out of all proportion to the severity of the symptoms. Finally, the cachexia which, in our text-books, is spoken of as an aid to diagnosis. By the time that the definite yellowish-earthy complexion is observed in the patient the diagnosis has been arrived at. From what I have seen, I incline to think that the cachexia comes only when there has been an ulcerated surface from which absorption of septic matters takes place. In intestinal cancers, annular or other, that intermittently cause obstruction, there are very apt to be little, unexplainable rises of temperature, accompanied by more or less pain, to be succeeded by periods of calm, during which time the cachexia becomes more and more pronounced. These rises of temperature are due to the absorption of part of the pent-up excreta of the intestines.

Regarding epithelioma of the lip, little need be said as to diagnosis. Ulcerating tumours of the lip are either specific or cancerous. Specific ulcers are usually on the young—naturally—they may be on either lip, and the early period at which the glands become involved are a chief aid in their detection. I have not met epithelioma on the upper lip.

There is no doubt that we occasionally get cases of acute cancer where the disease runs its côurse with fiendish speed and malignity. Bearing these exceptional cases in mind, it may be said that the rate of progress of cancer to its fatal finish varies inversely as the age—the younger the patient the shorter the illness.

The common modes of recurrence are, first, the axillary glands, then the skin that covered the breast, and then the pectoral muscle and its envelopment, and occasionally the cervical glands. Now, the operation for scirrhus of the mamma consists in a complete removal of the gland and skin covering it, the pectoral muscle in the immediate proximity to the tumour, clearing out of the axilla, and when all the bleeding has been stopped, bringing the free edges together if they will come ; if not, allow the space uncovered by skin to heal by granulation or grafting. The results, under the name of such men as Watson Cheyne, ought to convey credence to the minds of the most sceptical. This is the gist of his report :—" In my own experience, after extensive operations for cancer of the breast, as just published in *The Lancet*, I have no less than eleven patients now alive, at periods of from six to nine and a half years after operation, without any trace of recurrence, forming about 50 per cent. of all the cases operated on during that period. Surely if cancer be a purely constitutional condition, with local growth of epithelium, some fresh overgrowth would have manifested itself by this time, and we could hardly expect such a large proportion of cases to remain free from disease for such a long period." That is Dr. Cheyne's own warrantable statement ; and, besides being the result of an acceptance (perhaps unconscious) of the local theory of cancer, the facts cited go far towards proving the truth of that theory. This is the operation I have employed during the past few years, and I have had no reason to regret it. It is a much more severe trial of the patient than the older form, but even with the shorter experience I have had of it I do not think that I shall ever go back to the method of removing the areola and a small strip of skin, as the old operation was. No doubt, the new operation is a much larger and more severe strain on the patient, yet the results are worth it.

In the matter of the technique of the operation the procedure is to cut round the breast, dissect the skin well up and round, remove the breast and the pectoral muscle in the neighbourhood of the tumour, clear out the axilla, making the vein the objective point in that portion of your procedure, tying whatever bleeds, and, when in doubt, tie and then cut. If ordinary antiseptic precautions be observed, there is no reason why you should disturb the wound for ten or fourteen days. One point in the after-treatment I would insist on is, " Don't tie your patient's arm to her side." When she is in bed, put a pillow between arm and side, keeping the humerus at right angles to the trunk, and you will be surprised at what an amount of freedom she has when she begins to use the arm. I employ neither drainage-tubes nor packing, and the large wound heals in the ordinary way.

Recurrent cases.—Where the recurrent area is small and get-at-able, by all means remove it very freely. But when you find the recurrent part adherent to the ribs or other unremovable part, you are fairly at your limit. If it is a septic or hemorrhagic surface, much comfort is often experienced by the patient in removing the offensive surface, and keeping the parts as clean as may be by frequent dressing and the copious use of iodoform.—*Glasgow Medical Journal*, *January*, 1900.

NERVOUS SYSTEM.

83.—INJURIES OF THE NERVES DUE TO FRACTURE.

By CHARLES GREEN CUMSTON, M.D.,
Assistant Professor of Surgical Pathology in the Faculty of Medicine of Tufts College, Boston, Mass.

[From Dr. Cumston's paper :]

Case.—The patient was a young girl, aged 16 years, who sustained a fracture of the left humerus, just above the condyles, in August, 1899. After the fracture had united and the splint was removed, the patient noticed that the left hand was practically powerless. When first seen on November 7, 1899, I made the following notes :—A paralysis of the median nerve was present. No change in the electrical irritability nor trophic condition were remarked and no atrophy of the muscles supplied by the median nerve could be detected. Pronation of the antibrachial was limited, but functional disturbances in the thumb were very marked. The terminal phalanx of the thumb could not be made to flex at all, and the entire thumb could only be made to bend if abduction be made at the same time. She had lost completely the power of bringing the thumb into opposition. Abduction was also impossible. The terminal phalanges of the fingers cannot be flexed. As to the disturbances in the sensibility, they are most marked in the terminal phalanges of the index, second, and third fingers, while the radial aspect of the fourth finger is not affected to quite the same degree. The sensibility of the middle phalanges is somewhat dulled. The middle finger shows the most pronounced tactile dullness of all. The lateral aspects of the fingers show by examination that the trouble in the sense of touch is more marked on their radial side. The elbow joint appears rather thickened, while the cubital gland is somewhat enlarged and painful to pressure. A hard cord can be felt over the cubitus, which, when pressed upon, is extremely painful ; the pain is most intense above the joint, and decreases above and below. All this led me to make a diagnosis of a lesion of the median nerve, in all probability due to the callus or to cicatricial tissue. On November 11 the nerve was carefully lifted up and freed from the connective tissue which partly imbedded it, and then the bony projection was chiselled away so that when the nerve was placed back it lay perfectly flat and no bone pressed upon it. This bony projection was the callus, because it was very vascular and of new formation. No improvement in the functions of the hand was evident until five weeks later, when the sense of touch began to return. At the present time, eleven weeks after the operation, we find that the motor functions are nearly perfect, although abduction of the thumb is still somewhat impaired.

These injuries may occur simultaneously with the lesion of the bone, in which case we may term them primary, or on the other hand they arise during the process of repair, in which case they are secondary. The most frequent of all lesions to the nerves is certainly contusion at the time the fracture takes place. Contusion of a nerve may be produced by a direct force, the nerve being pressed directly against the bone ; or by an indirect pressure from the dislocated ends of the fractured bone. The severity of the lesion naturally varies with the amount of force in play at the time of the traumatism. If the traumatisme of the nerve is slight, a limited amount of paralysis will result, which disappears in a few days, while it may last for months, or continue until operative measures are resorted to when the traumatic lesions are of severe grade.

Secondary injury is not infrequent, and after the callus has formed it compresses the nerve trunk, or on the other hand the pressure may result from an abundant proliferation of connective tissue at the site of the fracture. The callus may simply press upon the nerve, as in the case here reported ; or it may even surround it completely, thus comprising it in its mass. A fairly good proportion of cases belong to this class, the nerve most frequently involved being the radial, and this frequency may be explained from the spiral course that the nerve follows around the humerus. Pressure from a misplaced fragment may also happen ; it may be primary, in which case the nerve is stretched over the projecting edge of the bone. When it occurs as a secondary complication it is usually due to the fact that the fragment continues to protrude, on account of the process of repair. When this takes place the lesion manifests itself by neuralgic or motor and sensory disturbances in the limb. Trophic changes have also been observed in some instances. Other nerve lesions are total or incomplete laceration by direct force or by a dislocated fragment of the fracture ; the radial nerve appears to be the one most frequently injured in this manner. Cases have occurred where a nerve trunk has been caught between the ends of a fracture, the symptoms being immediate paralysis of the parts supplied by the nerve, and pain. As a very rare lesion, I may mention traumatism of a nerve by splinters of bone.

The nerves of the limbs are the ones most apt to be injured in fractures, and the radial is the one which has been most frequently observed. Occasionally the brachial plexus, the axillary and median nerves are the site of the injury, and in one case two or more nerve trunks were involved at the same time. The nerves of the lower limb are infrequently injured, the most usual site being the peroneal nerve in cases of fracture of the head of the fibula, for the simple reason that this nerve is closely related to the bone. Lesions of the ischiatic, crural and tibial nerves have been reported, while several cases have been published where both tibial and peroneal nerves were injured.

Complete laceration of the nerve trunk may sometimes occur. Compression of the nerve trunk from misplaced fragments is apparently not frequent, although Davis believes that it must be more common than is generally supposed, especially those cases where the nerve becomes imbedded in the callus. Bruns, on the other hand, asserts that the most frequent cause of secondary nerve lesions in fractures is compression of the trunk by fibrous adhesions and exuberant callus formation.

From the cases here reported it will be seen how much may be expected from an *early* operation, and also how complicated may be the condition present, but the results are so encouraging that surgical measures should always be advised for the cure of this unfortunate complication of fractures. — *Pediatrics*, *April* 1, 1900.

ALIMENTARY CANAL.

84.—RUPTURE OF INTESTINE.

By Prof. ANGERER, of Munich.

At the German Surgical Congress, Dr. Angerer said that during recent years he had operated on nine cases of contusion of the abdomen with rupture of the bowels; two recovered, seven died. The mortality increased in the direct ratio of the hours elapsed after the injury. Subcutaneous ruptures of the bladder, kidneys and other organs, without visible injury of the abdominal walls, were easily diagnosed in most of the cases; but the diagnosis of rupture of the bowels was very uncertain, and when signs of peritonitis made the diagnosis sure, it was nearly always too late to save the patient. An important aid to diagnosis was long-lasting, sometimes even increasing, which went far to justify operation. Sometimes the patient felt very well after the blow for some time; in some cases the patients were even able to walk considerable distances or to work for some time; afterwards in most instances severe shock set in. Deterioration of the patient's condition, taking place some time after the injury, was always a very severe symptom. The presence or absence of pain was of no importance. An exact history of the case sometimes gave important hints. Blows by blunt-pointed instruments—as, for instance, the shaft of a carriage—very often produced rupture in persons with relaxed, thin abdominal walls by pressing the bowels against the spinal column or the walls of the pelvis; when the intestine was full it might burst by the suddenness of internal pressure. Improvement of the pulse for a short time was no argument against rupture, but if the pulse became continuously worse it was a very serious sign. The character of the respiration was an important help in diagnosis. In every case of rupture there was vomiting. Pain should not be treated by narcotics, which gave temporary relief, but increased the difficulties of the diagnosis. Sometimes a small rupture of the gut was closed for a short time by contraction of the muscular wall of the gut and by mucosa, which acted like a button, but all these cases were later on subject to the dangers of peritonitis. Contraction of the abdominal muscles was a sign of severe injury to the bowels. In a considerable number of cases micturition was difficult and painful, or impossible. Blood in the stools was often met with in rupture of the mucosa, which in many cases was followed after some days by perforative peritonitis. In 160 cases of expectant treatment of ruptures, 149 died, and 10 suffered from fæcal fistula. All such cases should be operated on as soon as possible, even during the shock. The patients should be kept warm, and the heart stimulated with camphor. It was better to use general anæsthesia by ether than to operate under local anæsthesia. As to the operation, he considered that it was advisable to make a long incision in the linea alba, and to search along the whole bowels, beginning at the plica duodeno-jejunalis. Dr. Angerer washed out the abdominal cavity with salt solution. In some cases the lacerated edges of contusions underwent necrosis, and it was necessary to cut them away before striking the intestinal wound. After such operations the abdomen should be drained.—*British Medical Journal, April* 28, 1900.

85.—RUPTURE OF THE RIGHT LOBE OF THE LIVER; LAPAROTOMY: RECOVERY.

By H. Beeckman Delatour, M.D.,

Brooklyn; Surgeon to the Norwegian, Long Island College, and St. John's Hospitals.

Rupture of the liver is one of the rarer injuries demanding surgical interference. It is, likewise, accompanied by a high mortality, placed by Mayer at 86.6 per cent., and by Edler at 85.7 per cent. The high mortality is due to the severe shock and loss of blood, and to the lateness of operative interference. In both my two cases there was a direct blow over the right side of the trunk, with a rupture on the under surface of the right lobe of the liver, evidently due to bending of that organ. In both, the immediate shock was so great that operative intervention was impossible for a number of hours. At operation in each case the abdominal cavity was filled with fluid and clotted blood, the hemorrhage having ceased entirely in one case, while it was merely an oozing in the other, at the time of operation. Both cases made an uneventful recovery, and are now, two-and-a-half years later, enjoying good health.

Case 1.—Female, aged 21 years, on May 30, 1897, was violently thrown from a tally-ho, which was struck by a rapidly moving train. Some four hours later the shock was extreme, pulse almost imperceptible, skin anæmic, and patient semi-conscious. It was evident that in addition to the shock a severe internal hemorrhage had taken place. There were several fractures of the extremities and fracture of the ninth and tenth ribs on the right side. Examination of the abdomen showed some distension and flatness in both lumbar and inguinal regions. The catheter withdrew from the bladder about three ounces of nearly pure blood. Active stimulation and infusion were resorted to. The following morning the patient's general condition was slightly improved; the catheter evacuated about six ounces of slightly blood-stained urine. It was decided to make an exploratory operation, and this was done on June 1, eighteen hours after receipt of injury. After thorough preparation of the skin of the abdomen, and under ether anæsthesia, a median abdominal incision was made just above the umbilicus. Immediately the peritoneum was opened there escaped a large quantity of fluid and clotted blood, estimated at two quarts; the hand was then introduced and the liver explored. A rent, two and one-half inches long and an inch and a half deep, of the under surface of the right lobe could be plainly felt, and by extension of the incision slightly upward it was exposed. On viewing this it was discovered that all active hemorrhage had ceased. Further exploration revealed several small ruptures on the surface of the spleen, but from none of these was there active hemorrhage. The blood and clots were then rapidly removed from the peritoneal cavity, and the abdomen left perfectly clean. The abdominal wound was then closed by layer sutures. The patient rallied quickly from the operation, and made a rapid and uninterrupted recovery, the wound healing by primary union. In this case we had to deal with both a rupture of the liver and of the spleen and also probably of the kidney.

Case 2.—Male, aged 44 years, car-coupler, on June 16, 1897, was caught between two cars while at his work. About three-quarters of an hour after the injury he was suffering from much shock, and showed signs of internal hemorrhage. Immediate operation was proposed, and refused by patient, as he had had a similar injury a year before, and recovered without any intervention. His condition slowly but continually grew worse in spite of vigorous stimulation, and twelve hours later he consented to operation. After proper preparations a median incision was made, and on opening the abdomen there was a profuse discharge of fluid blood, between two and three quarts; the liver was immediately sought, and on its under surface was found a rent an inch and a half in length and two inches deep. From the surface was a steady but moderate flow of blood. Pressure by means of a gauze tampon held in place for five minutes completely checked the bleeding. Two fine catgut sutures were then introduced and the liver wound closed. Thorough toilet of the peritoneal cavity was made, and then the abdominal incision closed by layer sutures. At the close of the operation the patient was in a very weak condition, but under stimulation of strychnine and whisky, hypodermatically given, and coffee enemata, a rapid response was obtained. His recovery was rapid and uninterrupted, the patient being discharged from the hospital at the end of the third week.

The question of when to operate in these cases is the all-important one, and must be decided for each case individually. In the first case reported had operation been immediately resorted to, I have no doubt a fatal issue would have resulted, while in the second case the delay made necessary by the patient's refusal of operation nearly cost him his life.—*Medical News*, *February* 17, 1900.

86.—PERIGASTRITIS AND ADHESIONS.

By A. W. Mayo Robson, F.R.C.S. Eng.,
Senior Surgeon to the Leeds General Infirmary, &c.

[The following is taken from Mr. Mayo Robson's second lecture on the Surgery of the Stomach :]

Adhesions of the stomach and pylorus to neighbouring organs are a common result of perigastritis, the causes of which may be extrinsic or intrinsic. Among the extrinsic causes are gall-stones, tuberculous peritonitis, local peritonitis from intestinal ulceration or from malignant growths in adjoining organs, typhoid fever, and possibly other fevers.

Among the intrinsic causes ulceration is by far the most frequent, though cancer and syphilis of the stomach must also be included. Though at the time adhesions, the result of perigastritis are conservative, and may frequently result in the saving of life by limiting peritonitis, the result of perforation or of bacterial infection due to ulcer, yet, later, such adhesions may lead to great functional disturbance by interfering with the motor activity of the stomach and causing pain, disability, and other ailments. As I shall hope to show, not only are these disturbances caused by adhesions of a functional nature, producing dyspepsia and so-called visceral neuroses, but not infrequently dilatation of the stomach, vomiting, severe pain, and great loss of flesh may result. In 1893 I read a paper before the Clinical Society of London on the subject of pyloric adhesions, and related several cases which had been cured or relieved of long-continued stomach symptoms by their division. Since that time my experience has considerably extended, and I can now point to a very large number of cases (nearly 50) of pyloric or other stomach adhesions caused in some cases by gall-stones, in others by gastric ulceration, where the adhesions, though not the original disease, were of the first importance in producing the symptoms for which operation was undertaken, and where gastrolysis led to their relief or cure. Though in some cases the adhesions may be due to a perforating ulcer, it is by no means necessary that ulceration need be near perforation to lead to perigastritis, for in many cases, long before the peritoneum is reached by the ulcer, a local peritonitis occurs, leading to the pain and well-known local tenderness which characterise ulcer of the stomach, and then lymph is thrown out which may fix the inflamed region to contiguous organs.

Adhesions are found around the stomach in about 5 per cent. of all necropsies, and about 40 per cent. of all cases of ulcer of the stomach are associated with adhesions. My experience in a very considerable number of abdominal sections, about 500 of which have been in the upper abdominal region, is that pyloric adhesions are very much more common than is usually supposed, and that their importance is greater than is generally recognised, even at the time of operation. This is especially the case in cholelithiasis, where I am accustomed to find gastric dilatation as a regular sequence of gall-stones, and to look for it as an ordinary concomitant sign ; and in such cases it is almost always due to adhesions of the pylorus to the gall-bladder and liver. When the pylorus is tied up by adhesions in an abnormal position, not only are the normal movements of the pylorus and stomach interfered with, but the food has to be forced out at a higher level, and when the pylorus is alone fixed a kink forms, leading soon to well-marked dilatation with flatulence, chronic dyspepsia, and loss of flesh. Where perigastritis is due to ulceration the adhesions are only found over the site of the ulcer, and if this be at the pylorus a double difficulty is presented, for not only is there fixation of the pylorus at an abnormally high level, but the pyloric orifice itself becomes stenosed from the contraction due to the healing of the ulcer. If the ulcer happens to be on the anterior wall of the stomach it may lead to hour-glass contraction. I find that I have operated on 47 cases of stomach disorder where adhesions alone, or adhesions associated with some other disease such as gall-stones, led to serious dyspepsia or other digestive derangements, and where the removal of the adhesions was followed by great relief or cure of the symptoms. The symptoms vary according to the site and cause of the disease, from mere dyspepsia to serious apepsia.

The diagnosis in these cases rests on a careful consideration of the previous history, together with the presence of well-marked signs and symptoms, so that it is not generally difficult. There will usually be a history of gall-stones, typhoid fever, ulcer of the pylorus, or some local peritonitis in the pyloric region, months or years previously. This will have been followed by indefinite dyspepsia and flatulence, which later takes a very definite shape, consisting of discomfort and pain after food, especially after a full meal, so that the patient prefers to take several small repasts rather than one large meal. The pain and discomfort are at once relieved by the recumbent posture, so that a necessity to lie down or rest after every meal is suggestive. Relief is frequently found by the wearing of a belt, and this is usually discovered by the patient before advice is sought. The pain is often of a dragging character. At times it may be acute, and it is increased or brought on by lifting or reaching, say, to adjust a picture. Walking or any active exertion may bring on discomfort and pain; hence active exertion is shunned, and inability to perform ordinary duties is complained of. When dilatation of the stomach is well marked there may be loss of flesh and vomiting every few days, often in large quantity.

Relief may be obtained by advising the patient to take small meals and to avoid bulky and fermentable foods, such as potatoes and bread, to rest after meals, and to wear a well-fitting abdominal belt. The natural cure, in some cases where there has been no operation, is probably due to the stretching of adhesions and to their absorption if the exciting cause has fortunately been removed; but in the more severe cases, where the adhesions are almost universal, such a fortunate termination of symptoms is scarcely to be hoped for, and in some cases the adhesions are so extreme that nothing short of gastroenterostomy can prove of any avail.—*Lancet*, *March* 17, 1900.

87.—THE AFTER-HISTORY IN CASES OF SUCCESSFUL COMPLETE GASTRECTOMY.

[Professor George E. Armstrong thus summarises the subsequent course of the cases reported by Schlatter (*Medical Record*, March 18, 1899); Richardson (*Boston Medical and Surgical Journal*, September 28, 1899); Brigham (*The Philadelphia Medical Journal*, February 3, 1900); Macdonald (*The Philadelphia Medical Journal*, February 3, 1900); and Harvie (*Annals of Surgery*, March, 1900). The remarks on Carl Schlatter's case are omitted, as an account was given of it in the *Retrospect*, vol. cxix., p. 320.]

Charles Brooks Brigham reported a patient, a woman, aged 66 years, who had been suffering for a year with pain in the stomach, which with the hardness in the region of the pylorus led to a diagnosis of cancer. The operation was performed on February 24, 1898. After the removal of the stomach the duodenum was united to the œsophagus without undue tension by means of a Murphy button, 15/16 inch in diameter. Seven weeks later the patient left the hospital for her home, where she has been living ever since. At first, for several months, her meals were at three hour intervals, and she was not restricted to any particular food. As she had few teeth the meat was cut into small pieces. At the present time she takes but three meals daily, with eggnog in the afternoon. She has no indigestion, and her bowel movements are normal, containing no undigested food; her sleep is natural; her skin moist; and her cheeks have considerable colour. In the spring of 1899, she weighed 110 pounds. Her weight at present is 113 pounds. Her blood is practically normal save for a slight diminution of hæmoglobin.

Maurice Howe Richardson performed a successful operation on May 31, 1898. The patient was a woman, aged 53 years, and had suffered from symptoms of cancer for a year. She left the hospital and returned to her home on July 5. She was able to take sufficient nourishment of great variety, and there was no difficulty in its assimilation; she was free from the distress that she used to experience after taking food, but there was in the epigastrium a sensation of drawing or dragging more or less pronounced, as if there was undue tension in front. Careful examinations were made from time to time to detect any evidence of recurring disease, but they were always negative. In November, 1898, the wound unexpectedly reopened, after some pain and discomfort in the left hypochondrium. Shortly afterwards symptoms of intestinal obstruction began to appear, and her strength failed with alarming rapidity, and she died on February 19, 1899. At the autopsy it was found that the mass at the left of the epigastrium was recurrent cancer, which had infiltrated the peritoneum under the rectus, and had spread about the walls of the small intestines. There were nodular masses in the mesentery of both large and small intestines. Minute nodules were scattered everywhere. Near the splenic flexure the lumen of the colon was totally obstructed. Beyond this point the bowel was collapsed, above it was enormously distended. The line of suture was perfect except for a sinus about the size of the little finger. From the history of this case the author concludes, that the patient's health would have been fully re-established had there been no recurrence of the original disease, that the sufferings were due to the mechanical effects of a chronic obstruction rather than to cancer itself, and that œsophago-duodenostomy is technically possible in a certain percentage of cases.

G. Childs Macdonald reported a case. The patient was a man, aged 38 years, who had been suffering from symptoms of gastric cancer for over a year. The operation was performed in September, 1898. The man is now well and living at Pasadena, Cal., where he follows the usual hard life of a farm labourer, eating and drinking the common food, partaking of meat and vegetables and red wine, and he is able to digest it all and do a good day's work, although he has no stomach.

John Bruce Harvey (a graduate of McGill '91) has recently recorded a case, having performed the operation on May 15, 1899. The patient was a woman, aged 46 years, who had suffered for nearly eighteen months from symptoms referable to the stomach, and for some time a mass was observed in the epigastrium. The stomach was removed with great difficulty owing to its attachment to the surrounding parts. The duodenum was without much difficulty brought in apposition with the œsophagus, and after the parts were secured with catgut, a final row of Lembert's sutures completed the operation. The patient made an excellent recovery, and left the hospital on June 25, after partaking of a dinner consisting of roast beef, mashed potatoes, one glass of milk, ice cream, and a small cup of coffee. Her appearance was one of happiness, and her feelings those of perfect comfort, every vestige of stomach distress having vanished. The only inconvenience she spoke of was a sense of pulling in the epigastrium, when she lay perfectly flat on her back, with her legs straightened out. On returning to her home she immediately assumed the responsibility of her household work, attending to all its details except washing.

Summary of the cases :—

(1) Woman, aged 56, died 14 months after operation.
(2) Woman, aged 66, alive and well 2 years after operation.
(3) Woman, aged 53, died 9 months after operation.
(4) Man, aged 38, alive and well 17 months after operation.
(5) Woman, aged 46, alive and well 10 months after operation.

These cases clearly show that the stomach, although a convenience is not an absolute necessity, and can be removed in its entirety without apparently causing any interference with nutrition. In suitable cases the operation is quite justifiable, it relieves the patient of the intense distress and suffering, and offers a reasonable expectation of prolonging life for many months. To be of any avail the operation must be performed at the earliest moment upon patients whose hearts are in good condition and whose general strength is but little impaired, and in whom the disease itself is situated favourably for wide and thorough dissection. —*Montreal Medical Journal*, *April*, 1900.

88.—SURGICAL TREATMENT OF DUODENAL PERFORATION.

Ulceration of the duodenum is dependent upon much the same causes as the similar lesion of the stomach, including vascular, hæmic, circulatory, and secretory alterations, and neurotic states, although burns of the surface of the body are believed to be especially provocative of duodenal ulcer. The lesion may be present in both or in several situations simultaneously, although usually single and far more common in the stomach than in the duodenum. All ages are susceptible, although males appear to be attacked with greater frequency than females, in contradistinction from gastric ulcer. The diagnosis is easy if melæna occurs, with or without hæmatemesis, if the characteristic pain is situated far to the right and, with the vomiting, occurs later. The treatment is based upon the same lines as that of gastric ulcer, including surgical intervention if hemorrhage is frequently repeated or severe, or perforation threatens or occurs. An illustration of the practical application of this principle is afforded by a case recently reported by Johnson (*Annals of Surgery*, November, 1899. p. 634) at a recent meeting of the New York Surgical Society. The patient was a man aged 27 years, who was admitted to the hospital at three o'clock in the morning with a history of having been seized four days previously with colicky pain referred to a point above the umbilicus and to the right of the median line. There were no vomiting and no chill. The pain was not severe, but continued during the following two days, and was always referred to the same region. The bowels moved daily, and the man continued at his work. A short time before admission the patient was awakened from sleep by severe abdominal pain, most intense three inches above the umbilicus and a little to the right of the median line, which was followed by a chill lasting half an hour. There was no nausea, but the patient took some mustard and water, which induced free vomiting, the vomited matter consisting of partly digested food and the mustard and water that had just been taken.

On admission the abdomen was not distended, but was moderately tender, with well-marked muscular rigidity throughout. The tenderness was most marked over an area about two inches in diameter, located three inches above the umbilicus, and with its centre one and one-half inches to the right. A small dose of morphine was given hypodermically for the relief of the pain. This was somewhat less severe by morning, but the tenderness was more marked and localised. There was general rigidity of the abdominal wall. The temperature had risen to 101.5 deg. F. A diagnosis was made of acute intra-abdominal inflammation, probably of a suppurative character, upon the right side of the abdomen. The abdomen was opened by an incision two and one-half inches long in the right semilunar line, with its centre at the level of the umbilicus. A considerable quantity of cloudy, bile-stained fluid containing flakes of coagulated lymph escaped. A probable diagnosis of perforated ulcer of the duodenum was now made, but as a matter of precaution the vermiform appendix was sought for and found to be normal. The large and small intestine, the gall bladder, the under surface of the liver, and the anterior wall of the stomach exhibited evidences of acute irritation, and were coated here and there with patches of grayish lymph. Upon the anterior surface of the descending portion of the duodenum, a little to the right and about midway between the junction of the first and second portions at the point where the second passes behind the transverse mesocolon, was a round os oval perforation, large enough to admit a No. 26 French sound, or thereabouts, through which was escaping bile mixed with other intestinal contents. The border of the ulcer was clean cut, not ragged. A pad of gauze was held over the ulcer, and the neighbouring portion of the abdomen was thoroughly washed with saline solution. The opening in the duodenum was encircled with a purse-string suture of catgut; the edges of the ulcer were inverted into the intestine, and the suture was tied. The closure was further strengthened, and the tension upon the purse-string relieved, by four Lembert stitches of catgut introduced along a line parallel with the axis of the gut. A considerable quantity of bile-stained, cloudy fluid was found at the bottom of the pelvis, and the intestines were everywhere moderately reddened and coated with disseminated patches of lymph. The edges of the wound were held wide apart, and the entire abdomen was repeatedly flushed with hot saline solution, without evisceration, the fluid being gently stirred about with the hand in the abdomen. The entire cavity was wiped dry with large pads of sterile gauze. A strand of gauze packing was then introduced down to the site of the ulcer, and brought out at the upper angle of the wound. The remainder of the wound was then closed with sutures. The patient did not suffer from shock. He was fed per rectum for forty-eight hours. The superficial wound was dressed on the third day, and appeared to be slightly infected, whereupon the skin-sutures were removed. The deep packing was removed on the fourth day, and was found to be clean. The patient remained in bed four weeks after the operation, and two weeks later appeared to be in perfect health.

Dr. Johnson cited the following statistics :—Of 39 cases of duodenal ulcer on record, recovery had occurred in 8 ; in 20 the ulcer was not recognised; in 2 general peritonitis was thought to exist, in 13 appendicitis, and in 3 intestinal obstruction. Of 19 cases in which the ulcer was found, though not diagnosticated beforehand, recovery occurred in 6. The case reported is the second of recovery in this country, an earlier having been reported by Dr. Taylor, of Richmond, Va.—*Leading article in the Medical Record, December* 16, 1899.

89.—APPENDICITIS.

By MAURICE H. RICHARDSON, M.D.,
Boston ; Surgeon to the Massachusetts General Hospital, &c.

[The following is taken from Dr. Richardson's remarks upon the question of operating :]

When seen for the first time on the third, fourth, or fifth days the general trend of the case may be more or less accurately determined. There is either general infection or there is not ; there is either impending disaster or there is not ; there is either marked improvement or there is not. Is it not fair to question at this time those rules of procedure which require in every case exactly the same line of treatment? May we not at least assume that some of those cases will recover without operation and that some will die with it ; and, admitting human fallibility, may we not by applying a universal rule turn the scale against the very patient who would have escaped by other methods of treatment? I am firmly convinced that by operating we at times do turn the scale against the patient ; and I admit that by not operating we may at times withhold his only chance. It is at this critical period, therefore, that intelligent discrimination should be encouraged ; that each case should be considered as a case by itself ; that no sweeping rule of procedure should be advocated. After the first forty-eight hours the conditions found at operation differ materially from those of the earlier hours. Necrosis has been fully established, localisation has become successful, or infection has become general. The appendix will be found embedded in recent adhesions ; contiguous to it, surrounding it, or in some way connected with it, will be found a foul-smelling liquid exudate teeming with bacteria. This exudate will vary in its localisation between wide limits of peritoneum. It may be far to the right, behind the cæcum ; it may be high up, involving liver and kidney ; it may fill the pelvis or cover the bladder ; it may be buried among small intestines ; it may be directly under the skin ; it may appear even in the left lower quadrant of the abdomen. The peritoneal cavity will often be found filled with sterile serum, firmly separated from the infection focus. Too often it will be found already extensively infected. The appendix itself will present all varieties of necrosis from small grey areas to total gangrene. Even at this stage there may be no definite perforation, though generally one will be found. The meso-appendix will itself often show a total necrosis, and the contiguous viscera will be covered with a grey exudate—pseudo-necrosis. The probable situation at this time can be determined by the experienced operator, and I may add the probable outcome of operation as well as the probable result of delay.

Unfortunately, in the fatal days of appendicitis—the third, fourth, and fifth day, or even later—the results of operative treatment are still deplorable. Can we not often tide a patient over those critical days to a time when intervention is almost surely successful—when the danger will be that of simple abscess-drainage or of an intermediate operation? Is it not wise conservatism when the case is severe and of a type that is usually fatal after operation, and when there are signs of improvement, to await (always excepting cases of general peritonitis) a more favourable time for intervention? It seems to me that the answer must be affirmative. Although central localisations of septic fluid about a presumably gangrenous appendix cannot be interfered with in these early days of appendicitis without grave danger of causing general peritonitis, this danger, grave though it may be, must be deliberately encountered: (1) If the symptoms are becoming more severe, and especially if there is any evidence that a sudden extension has taken place. (2) If the patient is dangerously septic, as shown by pulse, temperature, and circulation. (3) If, though there is no increase in the symptoms, they are still severe. Surgical intervention in this particularly dangerous class should be postponed, however, if the symptoms show signs of improvement. This opinion is based upon the large mortality following operation—a mortality due to the unavoidable spreading of infectious material among intestines that cannot be guarded.

I cannot but repeat what I have said many times before, that the argument against separation of adhesions and the resulting unavoidable contamination carries the greatest weight, and that, dangerous though it may be, delay in cases that are improving is fully justifiable. The chief argument in favour of operating upon cases of the class that are improving lies in the possibility of sudden rupture. But in carefully watched cases this rare accident can be immediately recognised, and after all it is but the spontaneous occurrence of what the operation deliberately causes. The chief advantage is that the extravasation has a short time in which to spread before cleansing can be attempted. A sure contamination must be balanced against a possible one. The chances favour the policy of non-intervention. Furthermore, if symptoms increase in severity without rupture, the chances from operation grow better instead of worse, because the prevention of infection becomes the easier the more practicable the isolation of the operative field. Moreover, is it not possible that the fluids lose their potency as time goes by? The fluids of the early hours seem to have an activity and virulence which those of the later stages lack. Indeed, fluids long confined are often sterile.

From the above considerations it seems not unreasonable to conclude that in severe attacks of appendicitis attended by large collections of fluids successfully localised operation should be postponed for a time if there are signs of improvement, and more especially if the fluids are localised centrally or in the pelvis. Another class, by no means small, comprises those cases in which the chances are in the balance, the slightest aggressive treatment being sufficient to turn unfavourably the scale. The usual termination of such cases is death, but occasionally recovery takes place—sometimes with operation, sometimes without. The proper treatment in this formidable class is perhaps more a matter of theory than of fact, of speculation than of demonstration. The fatalities in such cases always raise the query whether the other line of treatment would not have been better. Indeed, it is but natural after failure to wish that some other course had been pursued. On the whole, however, it seems reasonably clear that patients usually are better treated medically when it is reasonably evident that the slightest shock may turn the scale. The difficulties in the way of settling the question of intervention in cases of great severity seem to me extreme, and I offer my opinion with much diffidence. It would be so much easier to apply a hard-and-fast rule. I for one, however, cannot subscribe to an invariable rule of procedure at any stage of appendicitis, and especially at that stage when, from the above considerations, there is reason to believe that surgical intervention increases the hazard, already great.—*American Journal of the Medical Sciences*, *December*, 1899.

90.—THE MORTALITY AND TREATMENT OF ACUTE INTUSSUSCEPTION.

By Dr. FREDERICK KAMMERER.

[Dr. Kammerer opened this discussion before the New York Academy of Medicine :]

The pathology of intussusception was well understood, and diagnosis was generally easy. The measures for its relief were purely mechanical and had been clearly defined. Non-operative treatment of intussusception was less in favour now than formerly, and early operation had come more into favour. Of the bloodless method there was, he thought, only one deserving of any serious consideration, viz., the injection of fluid into the rectum. Inflation of the rectum with air, carbonic acid or hydrogen gas was also in use, but he had had no personal experience with it. The method of injecting fluid into the rectum was only applicable to the cases of intussusception of the colic or ileo-cæcal variety. Intussusception of the small intestine could not, and should not, be treated by enemata of water. From some personal experiments made some years ago, he did not believe that any amount of pressure could be exerted in the small intestine without rupture of the colon by the use of enemata. Mortimer had found cracking of the serous coat of the colon in dead bodies of young children when the height of the reservoir of fluid was only five feet. Medical literature contained quite a number of cases of rupture of the colon by the use of enemata, and this explained the tendency of modern times toward discouraging the use of enemata after the first twenty-four hours. The changes at the neck of the intussusception occurring after the first day in acute cases made this treatment hazardous. The quantity of water injected seemed to him a matter of minor importance, because the capacity of the bowel varied so greatly in different individuals. The hydrostatic pressure of more than three or four feet should never be allowed in small children. The most serious objection to the enema method was the inability of the operator to determine whether or not reduction had been effected. Many of the reported recurrences were probably to be explained by incomplete reduction by the use of enemata. In acute cases the reduction should be made only very early in the case, under complete anæsthesia, and once only. Hot water should be used in preference to cold water. After one failure of this treatment laparotomy was indicated. When laparotomy had been determined upon the reducibility of the tumour was of the greatest importance to the surgeon. The mortality in reducible cases had been shown to be less than half that of the irreducible cases. He personally believed that the mortality from intussusception could be vastly reduced if all cases were operated upon as soon as diagnosis had been made.

Technique.—In regard to the technique of reduction it seemed to him safer not to rely entirely on traction, but to compress the sheath at a point a little above the point where the intussusception could be felt. Nothing should be done to prevent reinvagination because of the great rarity of this accident, but if for any reason it seemed desirable he would favour shortening the mesentery by folding it in the direction of its long axis, and retaining this by a few sutures. The establishment of an artificial anus, except when absolutely necessary because of the desperate condition of the patient, did not commend itself because of the attendant high mortality. Intestinal anastomosis was not desirable because of the danger of septic infection. A curious accident had been recently reported as the result of this procedure. Some weeks after the operation the intussusception had moved down further, causing acute obstruction and necessitating another laparotomy which finally caused the patient's death. Total resection had been uniformly fatal, and had been abandoned for partial resection. Of nineteen patients operated upon by the latter method, eleven had recovered. Recently Kocher had reported five cases of total resection, all of which had been successful. According to his own experience, young children bore these operations exceptionally well—fully as well as adults, provided there was no great loss of blood. Barker, who had had perhaps the largest personal experience in the operative treatment on children, had commented upon the fact that children bore such operations fully as well as adults. Shocks from manipulation of the intestine should be much less severe in children than in adults with a well developed nervous system.—*Pediatrics January* 15; 1900.

91.—TWO CASES OF INTESTINAL OBSTRUCTION DUE TO PERITONEAL BANDS.

By J. E. PLATT, M.S. Lond., F.R.C.S.,
Surgical Officer to the Cancer Hospital, Manchester, &c.

The two following cases of intestinal obstruction—one an example of acute complete obstruction, and the other of chronic partial obstruction—may be of interest, because they illustrate two of the more common modes of origin of peritoneal bands, and also two different ways in which these bands may interfere with the lumen of the bowel. Further, they show the good results which may be obtained by operation in some of these cases.

[The author then gives details of two cases, occurring in a boy, aged five years, and a woman, aged 40, respectively. Recovery occurred in both cases.]

Remarks.—The most frequent causes of peritoneal bands are appendicular trouble and pelvic peritonitis. In the second of the above cases the band undoubtedly arose from extension of inflammation (probably gonorrhœal) along the Fallopian tube and consequent pelvic peritonitis. The first case is an example of a more uncommon mode of origin, although Mr. Treves ("*Intestinal Obstruction*," 2nd Edit., 1899) quotes several cases of obstruction from bands due to mesenteric gland disease. Obstruction from compression of the gut under the band, as in the first case, is the most common way in which the lumen of the bowel is interfered with in these cases. Less frequently the obstruction is due to traction of the band upon a loop of bowel, as in the second case. In very rare cases obstruction may be brought about by bands acting in other ways. The course of cases of acute obstruction due to bands is usually rapid. Mr. Treves says that the average duration of life in cases not subjected to operation is five days; he mentions an extreme case in which death occurred in ten hours, and others in which life had been prolonged for 14 or 15 days. Much, of course, will depend upon the seat of obstruction and the degree of compression. It is quite possible that in some cases spontaneous cure may result from giving way of the band.

As regards the treatment of these cases, this must be conducted on the lines for acute intestinal obstruction generally, for in only a few cases will it be possible to diagnose the exact cause of obstruction. On looking over the chief causes of acute intestinal obstruction—viz., internal strangulation (including strangulation by bands or by Meckel's diverticulum and internal herniæ), volvulus, acute intussusception, and obstruction by gall-stones or foreign bodies—one cannot fail to recognise that there are few cases in which any good result can be hoped for except by operation. And yet the operation results hitherto have not been so good as could be wished, and this for a very obvious reason. Cases of acute obstruction, as a rule, do not come under the notice of the operating surgeon until some days have elapsed from the onset of obstruction, by which time the patient is in a comparatively hopeless condition, and the surgeon's difficulties are greatly increased. This is well illustrated by the cases collected by Naumyn, and quoted by Mr. Treves : 228 operations for acute obstruction were followed by 116 recoveries (51 per cent.). When the operation was performed within twenty-four hours of the onset, 75 per cent. of the cases recovered ; operation after the third day was only attended with 30 to 45 per cent. of recoveries. These figures serve to show how rapidly these cases go to the bad, and to illustrate the evil effects of delay. Cases of obstruction due to bands are no exception to this rule ; in fact, the results of operation in these cases hitherto have not been so good as in cases of obstruction from gall-stones and foreign bodies, and in cases of intussusception. And yet, if the operation be not greatly delayed, a peritoneal band will probably be more easily dealt with than any other cause of acute obstruction.—*Medical Chronicle*, *May*, 1900.

92.—MALIGNANT DISEASE OF COLON.

By Dr. J. BOAS, Berlin.

The author possessed details of fifteen cases (twelve in men and three in women). In eight cases the tumour was demonstrable, in six its seat was the cæcum, and two the hepatic flexure of the colon. Twelve cases were treated by operation. He divided the cases, according to the subjective symptoms, into four groups. (1) Only slight gastric disturbances, and here the diagnosis was difficult. (2) More precise symptoms that fixed the attention on the disturbed intestinal function, the symptoms not being very characteristic. (3) The history and subjective symptoms directed the attention, from the first, to the bowel, and were indicative of the nature of the trouble. The history here was of a stereotyped character. The patients had had no previous trouble in the bowels, or only slight. Suddenly severe symptoms supervened, with paroxysmal pain, nausea, and vomiting. The attacks then became frequent and more severe, from a stenosing carcinoma ; if the disease was seated in the sigmoid flexure, there was tenesmus in addition to the other symptoms. (4) In the midst of seeming good health ileus came on, without distinct indications as to the nature of the disease. On careful inquiry earlier indication will be brought to light. Sometimes errors in diet have been blamed as the cause ; sometimes not.

The existence of a tumour was more important as regarded diagnosis. Of the eight cases in which the tumour could be felt, in only two could it be distinctly moved, and these tumours were in the cæcum with a short mesentery. The temporary disappearance, sometimes for two or three days, was of importance. By this was shown the importance of repeated examination, both with the bowel full and empty, in order to protect against errors of diagnosis. In order to test the movability of a tumour, artificial blowing up of the bowel was of importance, and also palpation in the warm full bath.

It was important to distinguish between innocent and malignant tumours, and especially between tumours on cæcal and perityphilitic exudates. The author had had two cases in which it was very difficult to distinguish such tumours from tuberculous ileo-cæcal tumour. The diagnosis was facilitated by examination of the fæces in tuberculosis, and by the musical intestinal sounds said by König to be heard when the stenosed part is of length. One especially good means of distinction lay in the diazoreaction observed in tubercle. It had been confirmed in recent times that this was always absent in the case of malignant tumours. A valuable sign was furnished by the symptoms of stenosis. Subjectively, there was severe colic with nausea and vomiting ; and objectively, independent of meteorism, tetanic peristaltic movement. The symptoms often receded for a time with careful dieting. Repeated tension of a small coil of intestine with subsequent relaxation was an important sign. All cases exhibiting such symptoms should be taken to the hospital for further observation. He had seen hæmatemesis in two cases, in which the blood regurgitated from the lower segments of intestine. As regarded the fæces, the presence of blood and pus was important. Serious bleeding was only seen in two of the fifteen cases. He had never seen particles of the tumour in the stools except after washing out. The general condition sometimes varied more than might have been expected ; he had seen an increase of weight of three kgms. in a week. As regards diet, some kinds of food should be avoided—skin fruit, Graham bread, and asparagus—they might originate an attack of ileus. In attacks of stenosis purgatives were generally useful, but in some cases opium was the best.

Of his twelve operation cases five were resection, with two deaths. One being still alive and well after four years, four well after being operated on five months. In four cases enteroanastomosis was performed. (One patient died from perforation, one patient was living after nine months and two after six months). In one case an anus præternaturalis was made ; death took place after four months. The results of operation were not very encouraging. Most of the cases were operated on too late. With early diagnosis and operation the result would have been better. Operation was indicated in movable tumour and good general condition. The form of operation could not be decided before the abdomen was open. As metastases generally took place late, extirpation afforded tolerably favourable chances. Further, operation should be performed even when no distinct tumour could be felt, if symptoms of stenosis were marked, and also in the case of ileus.—*Medical Press and Circular*, *December* 13, 1899.

93.—PROLAPSUS OF THE RECTUM IN CHILDREN.

By Charles Greene Cumston, M.D.,
Boston.

[From Dr. Cumston's paper :]

All cases of true prolapse of the rectum will show by inspection of the parts that a tumour projects out of the anus, but the form that this tumour takes will vary greatly from one case to another. The most frequent form is a sausage-shaped tumour, while at other times the mass may be conical, globular, or pear-shaped ; a few cases have been reported in which the prolapsed gut was sickle-shaped. The length of the prolapsed portion varies very greatly, and in the mildest types it may not be more than six centimetres in length ; but it may reach seventy-five centimetres or more. When a prolapsed rectum is not very long, its circumference is usually proportionately greater, and, in the adult, I have known of a case in which the circumference reached forty centimetres. In all cases the tumour is coated with mucous membrane. At the base of the tumour there will usually be found a sulcus existing between the mucous membrane of the prolapsed gut and the skin of the anal orifice. This sulcus varies in depth according to whether the case is one of prolapse of the rectum or an invaginated colon, so that by passing the finger along this sulcus the point of inversion may be determined. In some few cases the sulcus is situated so high up that the finger may not be able to reach it. In only a few instances will the mucous membrane of the bowel form a direct continuation with the integuments of the anus, in which case no sulcus will apparently be present, although when operated on it will be found. This fact can be explained if we assume that the lowest part of the rectum has become completely inverted.

In almost all cases the lumen of the gut may be seen in the centre of the tumour ; its shape varies, sometimes being oblong, and, at others, star-shaped, and through which fæces and, in some cases, a bloody or mucopurulent discharge makes its exit. A point which always should be considered is whether or not there is an inclusion of the peritoneum in cases of prolapsus. We, unfortunately, have no clinical guide by which we can detect the presence of the peritoneum in the tumour ; but it is evident that the portion of the rectum which is surrounded by peritoneum cannot become invaginated in the part situated below without drawing the serous membrane along with it, which consequently would be found at the anterior part of the tumour. Fortunately, this occurrence is certainly rarely met with, because, if it were otherwise, each time that incision is practised for a prolapsus the peritoneal cavity would be opened. Another complication that we should also bear in mind is the possibility of the presence of the small intestine in the invagination, and cases have been known where knuckles of the small gut have become strangulated in the anterior cul-de-sac of the invagination. All writers on this subject have indicated, as a pathognomonic sign, a gurgling sound, such as is heard in ordinary hernia, when the prolapsus has been reduced by digital manipulation.

The duration of prolapsus of the rectum is very variable. In some cases it may have existed for a few months, while in others the affection may have been present for several years ; and we often find young people or adults who have suffered from the trouble since early childhood. Generally speaking, the majority of cases of chronic prolapsus can be reduced after the patient has been to stool, and in some subjects, where the slightest amount of exertion, either sitting or standing, would cause the bowel to prolapse, it could be reduced every time it came down. Of course, this means a great deal of torment for the patient, on account of the continual trouble and annoyance to which he is put. But, nevertheless, it may be said that, in a large number of cases, defecation is rather painful, and in some cases incontinence of the fæces may be present, while in others there will be considerable irritation of the bladder, which is harder to bear than the prolapsus itself. Some of these cases of chronic prolapsus recti, which could have been easily reduced in the beginning, become irreducible after a certain length of time, and adhesions form between the two serous surfaces of the intestine. Others become irreducible from the fact that they have become incarcerated by the sphincter ani. In these cases the mucous membrane will be found uniformly swollen, œdematous, very hyperæmic, and of a dark-red to bluish colour, or even black, and in some cases gangrene will have already taken place.

Reduction of the prolapse should immediately be applied in order to ascertain whether there is any immediate danger of strangulation. If the history of the case is wanting, the duration of the existence of the prolapsus may be estimated by its dark-red colour, or even by the dermatoid aspect that the mucous membrane takes on when it has been submitted for a long time to friction by the clothing. The prognosis of prolapsus of the rectum is never really serious, and, if the affection be treated from the beginning, a cure will usually result. The only serious condition which may arise is when strangulation and resulting gangrene take place. In the large majority of cases, prolapsus of the rectum in children will readily yield to medical treatment if instituted early. The judicious use of a rubber rectal-plug to keep the prolapse reduced, cleanliness, and tonic treatment, with the use of strychnine, will probably give the best of results. If the prolapsus has for etiological factor a polypus, hæmorrhoids, or other local lesion, it is very evident that the surgeon's efforts should be directed towards the cure of the latter, and generally, after this has been accomplished, a proper medical treatment will do away with the prolapsus if it is not too far advanced. When a prolapsus has reached a certain stage, when it has become irreducible, or when it has become constricted by the sphincter ani and gangrene is imminent, resection of the prolapsed part is the method of choice.—*Annals of Surgery*, *February*, 1900.

94.—GENERAL PERITONITIS AND ITS TREATMENT.

The *Medical Record* of December 23, 1899, editorially tells us that the subject of the treatment of general septic peritonitis is always one of interest, although we know that we are almost invariably fighting a losing battle. One of the commonest causes of this as well as other forms of peritonitis is disease of the vermiform appendix, so that we are thus able to speak properly of a form of appendicular inflammation with general peritonitis, characterised by a set of symptoms whose presence almost at once destroys hope in the mind of the surgeon. Cases are reported from time to time of recoveries from this condition after operation with extensive peritoneal irrigation, usually with surgical salt solution and subsequent free drainage.

The method is not entirely satisfactory even when successful, and the results are not always to be accepted without reserve as cured cases of general septic peritonitis, because it is often the case that a very considerable portion of the peritoneum is not involved at all in the disease, in spite of clinical appearances, and may even have escaped contact with the irrigating fluid used at the operation.

One of the most unsatisfactory parts of the question is that concerning safe and efficacious drainage. The rapidity with which peritoneal adhesions form around such a focus of irritation as that caused by a strand of gauze packing is well known, but the effect of this process upon the perviousness of the drain has perhaps not received the attention it deserves. The aim of the operator has always been to remove as much as possible of the inflammatory products by irrigation, and to provide then efficient drainage for a period of at least forty-eight hours. It has been recognised that it is not possible to disinfect the peritoneal cavity, but there has always been hope that the peritoneum would be left in a condition to cope with the remaining infectious matter, and would take care of any new septic products which might be formed. The peritoneum has been trusted to great lengths in this regard by some operators, and in some cases after free irrigation with salt solution and local cleansing of the site of the infection, the abdomen filled with hot salt solution has been entirely closed.

Successes have been reported after this method, though we hesitate to say in consequence of it, for the question of the actual extent of peritoneum involved is not always easy to settle, though this has an important bearing on the future of the case. If the peritonitis is actually general, the alexic function of the whole peritoneum is practically lost, and we should be justified in thinking that mere dilution of the poison would not prevent its entrance into the circulation. Furthermore, we must remember that by the time a general peritonitis has developed the human organism must already have absorbed a considerable quantity of toxins which have begun their harmful work on the nervous centres with great promptness. In cases in which, at the time of operation, although clinically having every evidence of general peritoneal involvement, we find, in consequence of the lack of the customary adhesions, coils of more or less uninvolved intestine, the possibilities of a favourable manifestation of the protecting power of the peritoneum are very considerable, and it is under such circumstances that most of the so-called cases of general peritonitis are cured.

We must remember that there are several elements in cases of general peritonitis which add to and in fact constitute the basis of the gravity of the disease, beside the condition of the peritoneal membrane itself. There is more to do in fighting this disease than simply to remove the inflammatory products in the peritoneal cavity, and to prevent their re-accumulation. Tympanites from intestinal paresis, with the consequent absorption of toxins from the putrefying intestinal contents, is a very serious element in the disease, dangerous and unsatisfactory to treat. If this condition is well developed it would be impossible to put any quantity of salt solution into the abdominal cavity and then close the wound.

The concensus of opinion at present in regard to the disease under consideration seems to be that it is almost impossible to save a case of general peritonitis, and that our chances of success by what are now commonly accepted methods of treatment are inversely proportional to the extent of peritoneum involved. Surgeons are apparently pretty well agreed that it is best not to resort to general abdominal irrigation if possible, and that in any case the cleansing of the peritoneum shall be first undertaken carefully and methodically from the point of infection outward. If we can ever have an apparatus to supply hot salt solution continuously, and thus establish the same system that has been used in joints, we might save some otherwise hopeless cases of general peritoneal inflammation; but, until we can, the weight of the evidence seems to be that there must be some provision for drainage.—*Therapeutic Gazette*, *April* 15, 1900.

95.—THE SURGERY OF THE BILE PASSAGES, ESPECIALLY OF THE COMMON BILE-DUCT.

By W. S. HALSTED, M.D., Baltimore, M.D.,
Surgeon-in-Chief to the Johns Hopkins Hospital, &c.

[From Dr. Halsted's paper :]

Just now I am very much impressed with the splendid results of operations for gall-stones in the common duct, for we have had of late a series of cases very desperately ill, and so transformed by their emaciation and discoloration, and so feeble in body and mind, that I could hardly picture to myself the various stages of the metamorphosis towards convalescence. What nature accomplishes without the surgeon's aid in her attempts to rid herself of the obstruction in the gall-passages and to repair self-inflicted damage is marvellous ; but her methods are very crude and attended with much suffering and great danger, immediate and remote. I have, however, in mind at this moment two particularly creditable examples of nature's surgery.

In the first one the gall-passages were shortened to just the length of the two large stones, which completely filled them. One occupied the gall-bladder, the other the pancreatic portion of the common duct ; the duodenum was not only adherent to the gall-bladder, but served in place of its anterior wall, which had been destroyed ; the stone in the gall-bladder, therefore, rested on the wall or the duodenum, which was pasted, so to speak, over the great hole in the front wall of the bladder. There was nothing that could be called cystic duct ; the choleductus was almost completely covered by the duodenum ; the hepatic duct was much distended, admitting easily one finger. All signs of inflammation, except its results, had disappeared. The simplest conditions had been produced, and those most favourable to the expulsion of the stones in some subsequent attack ; gall-bladder and common duct were reduced to a short, wide, nearly straight tube, which bore a striking resemblance to an atheromatous aorta. The stone in the common duct was behind the duodenum and buried in its wall.

The second patient had his first colic twenty-one years before admission to the hospital. He was never jaundiced. In the third attack, which began one month prior to operation, his temperature reached 106 deg. A physician aspirated pus from the distended gall-bladder about twenty-four days after the onset of the third attack, or three or four days before we operated. The gall-bladder was opened in two acts. The fluid in the gall-bladder was almost clear and not bile-stained. Diagnosis : Stone in the cystic duct. Cover-slips showed few bacilli. Cultures yielded bacillus coli communis, pure. Patient applied for readmission in eighteen months because he had noticed a hard body just beneath the skin in the mouth of the sinus. By simply dilating the sinus I removed four large, very dark green, almost perfectly cylindrical stones, which were piled up upon each other in this sinus, forming a column 10 centimetres high. Nature would herself have extruded these stones which she had brought to the surface without causing the patient any discomfort.

Equally marvellous are the processes by which nature destroys all traces of her surgical handiwork. I have operated upon two cases in which perforation of the gall-passages and intestinal walls, and the expulsion of the stones, had undoubtedly occurred, but was unable in one of them to find any evidence of the perforation other than a few light and easily separable adhesions. Again, in a case of appendicitis, followed by gangrene of the greater part of the cæcum and a wide preternatural anus, there were, within a year, only a few very light adhesions about a pinhole opening in the colon to tell the story. These facts are enough to make the ordinary operations for fixation of the spleen, liver, uterus, &c., seem ridiculous. Adhesions about an artificial opening fortunately never disappear. If innocent fistulæ could be established with the organs to be suspended or fixed, the problem might in a way be solved.

To be as brief as possible, I will summarise some of the more noteworthy incidents observed by us in this department of surgery.

I. Dilatation of the first part of the duodenum caused by constricting adhesions; as the result, perhaps, of the dilatation, an ulcer ("distension ulcer"—Kocher) on the confines of the pylorus; the ulcer gave rise to a dissecting submucous abscess (chronic), rich in organisms because not reached by the most painstaking sterilisation of the stomach. This abscess was punctured during the operation and a fatal peritonitis resulted (terminal infection), although, literally, only a drop or two escaped, and these were carefully wiped away.

II. Primary carcinoma of the duodenal papilla and diverticulum Vateri. *First operation*: Excision of portions of the duodenum (nearly its entire circumference), pancreas, common bile duct and pancreatic duct in order to give the little growth, no larger than a pea, a wide berth; circular suture of the duodenum and transplantation of the stump of the common duct and the pancreatic duct (Wirsung's) into the line of this suture. *Second operation*: Cholecyst-cystico-enterostomy by the writer's method for intestinal lateral anastomosis. [Some four or five months later the patient succumbed to a recurrence of the growth.]

III. Dynamic or paralytic dilatation of the first portion of the duodenum and of the pyloric portion of the stomach, corresponding accurately to the limits of a sharply-circumscribed peritonitis; gall-stones in the gall-bladder; hydrops vesicæ. Case full of interest for diagnostician. Beautiful instance of circumscribed dynamic dilatation caused by local inflammation; no adhesions.

IV. Conditions suggesting hepaticocholecystostenterostomy (hepaticocholecystostcholecystenterostomy) as a possible operation; common and cystic ducts reduced to fibrous cords; dilated hepatic duct and gall-bladder. Remarkable toxic (?) renal colic resembling closely intestinal colic, associated with anuria; colic and anuria entirely relieved by salt infusion.

V. Choledochotomy performed twice. The gall-bladder, which was shrivelled at the first operation when two stones were probably in the common duct, was large and distended at the second operation when only one stone occupied the common duct (the ampulla). Hæmatemesis after the second operation.

VI. The most dense adhesions that I have ever encountered in these operations, and probably the most difficult of my operations upon the bile passages. A small abscess in the midst of the adhesions; muscular coat of the duodenum converted into fibrous tissue; the exposed submucosa resembled gall-bladder so closely that the duodenum was aspirated and opened.

VII. Case illustrating the rapidity with which adhesions after perforation and extrusion of stone can be absorbed. Renal pains resembling intestinal colic (third observation of the kind within eighteen months). Tachycardia, believed to be due to toxæmia of some kind (possibly benign embolism), suddenly disappeared during counting of pulse and while preparations were being made for subcutaneous infusion.

VIII. Discharge of pus and blood by mouth and rectum during severe gall-stone attack. Two years later, adhesions so extensive and so dense that the common duct was reached by a retroperitoneal route, over the right kidney. A stone in the ampulla had just ulcerated through the wall of the common duct and through its duodenal coverings.—*Boston Medical and Surgical Journal, December* 28, 1899.

ORGANS OF URINE AND GENERATION.

96.—DIFFERENTIATION OF THE URINES THROUGH URETER CATHETERISATION.

By Dr. F. Tilden Brown.

[Dr. Tilden Brown makes the following remarks in his paper :]

In reviewing the histories of these cases it will be seen that the five cardinal points claimed for ureter catheterisation have been verified, viz., it answers or helps to answer such questions as : (1) A patient presents a variety of disturbances. Do they or do they not involve a urinary lesion ? (2) A patient presents the symptoms of a urinary lesion. Does this affect the superior urinary tract or the inferior ? (3) The patient is affected with a renal lesion. Which kidney is affected? (4) One kidney is diseased. What is the condition of the other? (5) One kidney is diseased. What is the nature of the lesion? The possibility of making the following renal diagnoses by ureter catheterisation is very reasonably claimed:—Renal lithiasis, pyelitis, pyelonephritis, pyonephrosis, hydronephrosis, cases of movable kidney, tumours of the kidney. In lesions of the ureters: To detect obstruction and spasm, wounds or surgical division of its coats, lodged calculus, anomalies of the ureters. Therapeutic value is claimed for ureter catheterisation: As a preliminary means of safeguard in operations on the pelvic organs, especially women; to enable healing solutions to be applied to the pelvis and calyces of the kidney; for the cure of renal fistulæ; for the relief of painful cystitis.

Besides our pleasure in offering a series of cases to substantiate the diagnostic value of urinary separation, it is the purpose of our paper to call attention to the merits of Dr. Brenner's ureter cystoscope, with which most of the cases were examined. Before this paper was half finished, we saw, with regret, that Dr. Sondern's full analysis of most of these patients' urines could not be included on account of prescribed space. By their full publication in another article we hope to emphasise the clinical importance of urinary differentiation. Whereas this paper had its main object in a demonstration of the average feasibility of correct instrumental collection of the urines without the employment of general anæsthesia and without detriment to the patient, we wish, nevertheless, here to express the conviction that whatever value accrued from our part of the work would, without Dr. Sondern's analyses and his personal conclusions attached to each of the reports, have been greatly lessened. With slight exception, all writers and workers in the field of ureter cystoscopy have not only endorsed Brenner's admission that his own instrument was practically useless in catheterising male cases, but for work in either sex they have condemned the principle upon which it was conceived, viz., his attempt to utilise the convexity of a cystoscope for the intravesical outlet of the catheter.

Dr. James Brown, of Baltimore, was the first to controvert this by publishing the two cases in males where he used a Brenner instrument successfully, and one female case. No other advocate appeared until 1898, when Zuckerkandl said, "I thought it proper, in the interest of the subject, to point out that Brenner's cystoscope, which for years has been of great utility in females, answers also all the demands of ureteral catheterisation in men," and cites two cases. Caspar makes the following comment upon Zuckerkandl's remark: "Such may be the case now and then; but in the majority of instances one would encounter insurmountable obstacles."

Our experience thus far leads to the conclusion that cases presenting for ureter catheterisation, or for any of the methods of collecting the separate urines, may be grouped in four classes: (1) Those favourable for the success of such collection; (2) unfavourable cases; (3) difficult cases; (4) impossible cases. As is readily seen, a great variety of abnormal conditions may pertain in individual cases in these different classes to render catheterisation tedious or impossible. In the favourable cases the separate urines are about as easily secured by one method or instrument as by some other. In the unfavourable cases there is considerable scope for judgment as to what method or what individual cystoscope to employ. In the difficult cases the importance of such a selection becomes more manifest, and a preliminary examination may well be provided for to antedate by several days the attempt to collect the urines. In the impossible cases—and these form a striking minority—practically those conditions would present which interdict even the use of the simple observation cystoscope.—*Annals of Surgery*, *December*, 1899.

97.—CHRONIC GONORRHŒA IN THE MALE.

By Geo. E. Armstrong, M.D.,
Surgeon to the Montreal General Hospital.

[From Dr. Armstrong's paper:]

The primary and most obvious result of stricture is undoubtedly its obstructive action, and this in itself may indeed prove serious enough; but the second and very important result of stricture is the alteration in the urinary organs, rendering them the more easily infected by pathogenic organisms. I think that we all must and should admit to ourselves that infection is, as a rule, coincident with urethral instrumentation. I am not prepared to say that infection can always be avoided, but it generally can. The accessible parts should be carefully washed with soap and water and then with sublimate solution, 1 to 2,000, or a 2 per cent. solution of carbolic acid. The urethra itself should then be washed out by means of a syringe or irrigator. For this purpose I am in the habit of using a solution of permanganate of potash, one-half of one per cent., or a saturated solution of boracic acid. By means of a long narrow glass nozzle or a small sized rubber catheter, that part of the urethra anterior to the anterior triangular ligament can be well washed by a stream of antiseptic solution flowing outward. There is nothing I do with greater hesitancy than introduce for the first time a catheter into a distended bladder, whether the distension arise from prostatic or stricture obstruction. Explain it how we will, we constantly see old men using rough, dirty catheters, that they carry in their pockets and never think of washing, and passing turbid, odorous urine, with impunity it is true, but they either have acquired immunity or their urethral and vesical lining is invulnerable to attacks of ordinary bacteria.

The next point I want to draw attention to is the infection of the kidney from the bladder. Perhaps I may say that this is the all important point in the sequelæ of urethral stricture. A knowledge of its possibility forces us to use due diligence in the relief of cystitis. The infection spreads to the kidneys by three routes: the lymphatics, the ureters, and the blood vessels. I mention lymphatics first because I think they are the most frequent route. They carry the infection through the capsule into the kidney. When the infection passes up through the ureter, the pelvis is naturally the first to be infected, just the reverse of what occurs when the infection is brought to the kidneys through the lymphatics or blood channels. To sum up, then, the natural history of stricture is narrowing of the urethra, obstruction to the outflow of urine, dilatation behind the stricture, of the urethra, bladder, ureters, plevis of the kidney and hydronephrosis. When infection occurs, then follow cystitis, ureteritis, suppurative nephritis, septicæmia, and death.

In regard to the method of treatment to be adopted, I am strongly in favour of dilating all dilatable strictures; and nearly all gonorrhœal strictures behind the peno-scrotal angle are dilatable by the interrupted or continuous method. In a general way, I reserve for cutting gonorrhœal strictures of the pendulous urethra, traumatic stricture and congenital stricture of the urethra. I have not excised any traumatic stricture because I have not met with any case adapted to this method of treatment. In one case, recently, of traumatic stricture involving fully two inches of the urethra, I found it necessary to lay open the stricture area by dissection, and then to form a new floor, as in the operation for hypospadias. The result was entirely satisfactory. Cock's operation, or the opening of the urethra behind an impermeable stricture and therefore without a guide, I have performed only in cases of extravasation of urine. I have performed this operation in several such cases. In all of them the emptying of the bladder has been accomplished, but the future of such patients depends upon the extent and virulence of the infection of the tissues and the recuperative power of the patient. This complication frequently occurs in old men with diseased kidneys, and is often fatal.—*Montreal Medical Journal*, *March*, 1900.

98.—GONORRHŒA AND STERILITY.

By ALBERT NEISSER, M.D.,
Director of the Royal Dermatological Hospital at Breslau, Germany.

[From Dr. Neisser's paper :]

To my mind it is clear that gonorrhœa prevents increase in the population much more than syphilis, although it has been the custom to lay most of the blame upon the latter disease. There is scarcely a doubt left now that more than 50 per cent. of the involuntary childless marriages and limitation of the number of children is due to gonorrhœa and its sequelæ in man and woman. As in most cases the man infects his wife, at least 45 per cent. of these cases are due to him. As far as regards the direct cause of sterile marriages, it is now well known that in one-fourth of the cases the cause is gonorrhœal epididymitis and the consequent *impotentia generandi* of the male. Besides, it must be remembered that a certain number of men suffer from aspermatism. Others, as the result of inflammatory processes in the prostate, ejaculate into their bladders. Finally, a number have lost the potentia coeundi in consequence of gonorrhœa or its complications. The cause of sterility is explained when azoospermia, that is to say, absence of spermatozoa, can be demonstrated in the male. It was Kehrer of Heidelberg who first pointed out this cause for sterility in the male. He found it in 30 per cent. of all the marriages in which he was consulted with regard to sterility. Lier-Ascher confirmed these figures. Simmonds examined the testicles of 1,000 bodies for the purpose of finding spermatozoa. He found them absent in 33 cases. All of these had venereal histories. In 22 cases the cause was gonorrhœa. If we accept the ordinary figures that in a 1,000 marriages 10 per cent. are sterile, then these 22 cases of azoospermia caused by gonorrhœa represent the percentage of sterility in the male in 100 marriages; that is to say, 22 per cent. of all cases of sterility is due to this cause. Among 600 husbands of sterile wives Fuerbringer found in 83.3 per cent. either absence of spermatozoa or suspicious infrequency of spermatozoa.

My own experience is not sufficient, although I have had a number of cases under observation, to enable me to give any statistics that would throw light on the subject. I have found, however, in every instance in which men consulted me about the sterility of their marriages, that whenever impotentia coeundi was not the cause, spermatozoa were always absent. In practically every case the cause was double epididymitis.

To my mind there is not the slightest doubt that the most frequent cause of absence of spermatozoa is gonorrhœal epididymitis. Authorities in every part of the world, Busch, Fuerbringer, Giacomini, Godart, Gosselin, Liegois, Lier-Ascher, have stated that in all their cases of absence of spermatozoa there had been a preceding epididymitis. Not only has double epididymitis and funiculitis been set down as the cause of absence of spermatozoa, but in a number of cases where these affections seem to occur only on one side they appear to act as causes of the same condition. Thus far, however, funiculitis has been neglected, although it presents just as much hindrance to the passage of semen as does epididymitis and it not infrequently happens that while an epididymitis is running its course on one side a funiculitis is being overlooked on the other side. It must be conceded that even double epididymitis does not always cause absolute sterility. In 24 married men who had suffered from double epididymitis Benzer found absolute sterility in 10 only. In five of the marriages there was only a relative sterility, while in nine the conditions were normal. Unless one would wish to question the character of all 14 of the women in these cases, one must admit that in nearly 60 per cent. of the cases procreative power remains in spite of epididymitis duplex.

In 87 married men with epididymitis on one side Benzler found absolute sterility in 16 only; relative sterility in 10; normal power in 71. The procreative power remained therefore in over 81 per cent. of the cases. In contrast to this we may consider 363 marriages in which husbands had suffered from gonorrhœa but had not had epididymitis. In 10 per cent. of these there was absolute sterility; in 17 per cent. relative sterility; in over 89 per cent. of the cases at least some procreative power. These last statistics correspond very closely to the percentage of sterility which obtains in all marriages.—*Medical News*, *January* 20, 1900.

99.—CYSTITIS.

By Nicholas Senn, M.D.,
Chicago.

[Dr. Senn thus speaks of the bacteriological classification :]

This is a subject of great importance, and of very recent development. This classification has a very direct bearing on the etiology of the disease, and affords valuable indications for treatment. In all obscure cases of inflammation of the bladder the urine should be carefully examined bacteriologically. It is in this direction that we may anticipate material advances in the treatment of cystitis.

(*a*) *Bacillus coli communis infection.*—This organism is found more frequently in the urine than any other known microbe. Its precise rôle, however, as a causal factor in cystitis is not clearly defined. It has been found abundantly in urine without having produced any cystitis. It does not decompose urea. If, however, another organism is introduced, such as the pus organisms, decomposition and cystitis are at once set up. The organisms which decompose urea are the bacillus pyocyaneus, bacillus pyogenes ureæ, staphylococcus, and streptococcus. It is probable, therefore, that the bacillus coli communis itself will not produce cystitis. Its presence may be suspected in cystitis following rectal operations, or intestinal irritation or inflammation. The urine usually remains acid.

(*b*) *Saprophytic or Mixed infection.*—In more than 50 per cent. of acute and chronic cystitis, infection is the result of the combined action of several microbes. Pus organisms and saprophytes decompose the urine. Ammoniacal urine acts as an irritant to the bladder mucosa, and thus favours the action of the bacteria directly concerned in producing the inflammation. It should always be suspected if the urine is ammoniacal. In these cases careful systematic irrigation of the bladder is of great value, and often arrests the process.

(*c*) *Staphylococcus infection.*—This may be found alone or mixed with other organisms, in cases of catarrhal and suppurative cystitis. In itself it is a comparatively mild microbe, and its presence may be suspected in superficial infections. It has the power, however, of decomposing urea.

(*d*) *Streptococcus infection.*—This is not often the cause of cystitis. Melchior found the urine acid in all cases in which this was the sole organism. It produces a diffuse form of inflammation invading the lymphatic channels, and is almost constantly found in cases of diffuse interstitial and exfoliative cystitis.

(*e*) *Erysipelatous cystitis.*—This is very rare, and is produced by the streptococcus of erysipelas.

(*f*) *Typhoid bacillus infection.*—Melchior has recorded a case in which this was the only organism cultivated from a case of acute cystitis following typhoid fever.

(*g*) *Diplococcus infection.*—The diplobacillus of Friedlander has been found in rare instances as the only microbic cause of cystitis.

(*h*) *Gonococcus infection.*—It is claimed by some that this organism alone cannot produce cystitis. If this develops in the course of specific urethritis it is due to a mixed infection. This is true in many instances, but occasionally the gonococcus is found as the solitary microbe present in the urine. It is not easy to demonstrate this organism in the urine in cases of gonorrhœal cystitis, and it is necessary to make cultures. This form of cystitis is usually localised, and is especially frequent in the trigonum of the bladder.

(*i*) *Tubercular infection.*—This furnishes a type of the clinical manifestations of chronic cystitis. With few exceptions a primary chronic cystitis is of a tubercular nature. It may be the result of blood infection or secondary to renal tuberculosis. The most common seat of the disease is the trigone and the ureteral orifices. Senn has seen one case in a girl aged nine, which was primarily vesical, extended to the kidneys, and was fatal in less than a year.

The urine contains the same elements as in chronic catarrh. There is often a small quantity of albumen. Tubercle bacilli are not always present, and their detection is difficult. If this disease is suspected a few drops of the urine sediment should be inoculated into a guinea pig. This will often succeed in reproducing the disease, and thus complete the diagnosis.—*From Dr. Arnold W. W. Lea's Summary in the Medical Chronicle, May*, 1900.

100.—TWO CASES OF TUMOUR OF THE BLADDER.

By F. A. Southam, M.B. Oxon., F.R.C.S.,
Surgeon to the Manchester Royal Infirmary.

[From Mr. Southam's paper :]

Two cases of tumour of the bladder have recently been under my care, of which a brief description may perhaps be interesting, as they presented several points in common, viz., (1) in both cases the growths were of the nature of papillomata, and sprang from the base of the bladder ; (2) they occurred in adult males, the only symptom marking their presence being a painless hæmaturia ; (3) the growths were of small size, not infiltrating the bladder wall, and therefore capable of removal by suprapubic cystotomy. The cases differed, however, from one another in the following points : (1) in one there was a history of recurrent attacks of hæmaturia, separated by long intervals of complete freedom from bleeding—in the other the hemorrhage was continuous from its onset ; (2) in one the growth was sessile—in the other it was attached to the bladder wall by a distinct pedicle.

Case 1.—A man, aged 64, noticed for the first time, three months previously, that blood was present in his urine, and since that date it had never been absent, the amount varying from day to day, small clots being often passed. He had suffered no pain, and there had been no increased frequency in micturition, or other evidences of irritability of the bladder. On admission the urine was acid and brightish red in colour ; micturition was not attended by pain or more frequent than usual. The bladder was explored with a sound with negative results ; but upon washing it out afterwards some small greyish particles came away through the catheter, and on examining these microscopically they presented the typical structure of villous processes. The diagnosis of a vesical growth being thus established, the bladder was opened from above the pubes, and a soft, flocculent, sessile growth, the size of a walnut, was found springing from the base on the right side. It was removed without much difficulty with the finger-nail assisted by a Volkmann's spoon, and the patient made a good recovery from the operation.

Case 2.—A man, aged 45 years, had for several years been liable to slight attacks of painless hæmaturia, occurring at long intervals, and never severe enough to cause him any anxiety or inconvenience. Recently the hemorrhage had been profuse. As the symptoms pointed to the presence of a vesical growth, it was resolved to open the bladder without further delay, and suprapubic cystotomy was therefore at once performed. A growth was found and removed, the pedicle being ligatured close to its origin from the bladder wall, and as in the previous case the patient made a good recovery.

In both instances microscopical examinations of the growths showed them to be of the nature of papillomata ; their removal was followed by an almost immediate arrest of the bleeding, and there has been no recurrence in either patient since the operation. The cases are good illustrations of the fact that for a long period a painless hæmaturia is often the only symptom due to the presence of a papilloma of the bladder, and a reference to the structure of the growth will explain why this is so. The hæmaturia is accounted for by the vascularity of the tumour and the length and delicate structure of its villous processes, in which numerous fine capillary vessels are contained. The muscular contraction of the bladder wall during micturition by compressing the base of the tumour causes congestion of the capillary vessels, which readily rupture and allow of the escape of their contents. Very frequently portions of the villi became detached, as is proved by the fact that they are often found floating in the urine, and their separation is always accompanied by bleeding. The absence of pain for a considerable time in their course is also explained by their soft structure, none being felt even at the end of micturition, when the bladder has emptied itself and its contracted walls are pressing upon the growth. This is very different to what occurs when the bladder is the seat of a firm infiltrating growth, as in the case of epithelioma ; in the latter affection pain and irritability of the bladder are always early symptoms, often preceding the onset of hæmaturia.

Though recurrent attacks of painless hæmaturia may be the only symptoms for months or even for years in cases of papilloma of the bladder, it generally happens that sooner or later cystitis is set up, being often excited by the retention of blood-clots in the interior of the viscus, and the straining efforts which attend the attempts to expel them ; then there is superadded not only pain but also all the other symptoms of cystitis. In both cases the nature of the hemorrhage was symptomatic of a tumour of the bladder, for it is unusual for any other condition to give rise to such profuse hæmaturia as was observed in the second case, with the exception perhaps of a malignant tumour of the kidney. In the absence of any indication of a renal growth, the profuseness of the hæmaturia and its long duration, the bright red colour of the blood, and the passage of clots in the urine, could only be accounted for by the presence of a vascular vesical tumour.—*Medical Chronicle*, *April*, 1900.

101.—THE TREATMENT OF SCROTAL HYDROCELES.

By W. McAdam Eccles, M.S. Lond., F.R.C.S. Eng.,
Assistant Surgeon to the West London Hospital, &c.

Hydroceles occurring in the scrotum are so frequent, and so often lead to such an amount of annoyance to the sufferer, that means which will entirely rid him of them must be eminently satisfactory. There is no doubt that, after a first tapping, an acute hydrocele—that is, one that is secondary to some disease of the testis or the epididymis—may never reappear, but in the majority of cases a chronic hydrocele reforms after an initial withdrawal of the fluid. Thus some other measures are necessary to secure permanent relief to the patient. These consist in operative procedures, which may be classified as injection and excision. The method of injection has several very serious objections to its use. It is uncertain in its final result, for there is always a liability to recurrence from incomplete obliteration of the cavity of the sac from imperfect adhesions having been formed. There is considerable pain attendant upon the operation itself, with the necessity of the patient remaining recumbent for some days. It is of no avail in cases where the hydrocele wall is thick or the sac multilocular. There is some amount of risk, in the tapping and injection, of converting the hydrocele into a hæmatocele, and also of setting up a tedious inflammation of the testis itself. The fact, therefore, remains that injection for a chronic hydrocele has but little to recommend it. On the other hand, treatment by excision of the sac as it is carried out in these days of asepsis is a radical and a very safe method of dealing with chronic effusions of fluid in the scrotum.

When a case of chronic hydrocele presents itself to me, I usually follow out the practice as summarised below. The scrotal swelling is carefully examined so as to determine its nature, and particularly to exclude the existence of hernia. Then the parts having been thoroughly cleansed, together with the surgeon's own hands, the fluid in the sac is drawn off by a fine trocar and cannula, which has been rendered sterile by boiling. The characters of the evacuated fluid may be of great assistance in the final diagnosis of the exact nature of the swelling. Moreover, when the fluid has been withdrawn a more minute examination of the testis and the epididymis can be made, so as to determine whether either or both are in any way diseased. The patient is then told, if the case is one of a chronic hydrocele, that the swelling is almost certain to reappear, owing to the reaccumulation of the fluid, in a shorter or a longer period ; and, if this does happen, that the subsequent treatment of the case will be repeated tappings, or a radical excision of the sac wall. It is better for the patient, and far more satisfactory for his surgeon, that he should undergo the radical cure of his hydrocele by excision if the fluid has reappeared after a preliminary tapping.

Operation.—Two days before the actual operation the whole of the pubic hair should be removed by shaving, and the parts washed with soap and water, then with ether, and finally with a solution of the biniodide of mercury in the strength of 1 in 2,000. Immediately after this the whole of the scrotum is to be covered with an antiseptic dressing of the double cyanide of mercury and zinc gauze, so adjusted that there is no possibility of its becoming shifted. This process of cleansing as thus detailed is to be repeated on the following day, and again on the table prior to the incision being made. The separation of the sac wall is a matter of simplicity, and can be performed rapidly with the forefinger, only requiring the use of the scalpel here and there. It is very important that the wound should be absolutely dry before it is closed, otherwise there may be formed a collection of blood which may seriously interfere with healing. The sac having been separated from the scrotal tissues almost back to the epididymis behind and below, and the cord behind and above, the time has arrived for the liberation of the contained fluid. The scalpel is made to enter the sac, and the fluid is allowed to rapidly flow out. While the incision into the sac is being made care must be taken to avoid wounding the testicle. When all the fluid has been evacuated, the sac wall is cut away with the scissors to within a quarter of an inch of its reflection on the anterior surface of the testis internally, and on the outer side close to its reflection on to the epididymis. Any vessels that bleed are to be promptly secured by pressure forceps. If the upper part of the sac extends much above the level of the testicle, it will have to be followed up and excised, with due care to avoid wounding the cord which lies behind it. The parietal layer of the tunica vaginalis will now have been removed. The visceral layer of the serous membrane is now advantageously rubbed over with a 1 in 20 solution of carbolic acid, so that the endothelium covering its surface may be destroyed. If recurrence happen to take place after excision has been performed, the fluid must obviously be derived from the visceral portion of the sac, and it therefore seems a legitimate and necessary proceeding to endeavour to deprive it of its secreting power.—*Treatment*, *January* 25, 1900.

102.—PROGNOSIS OF TUBERCULOUS DISEASE OF THE KIDNEY.

By David Newman, M.D.Glasg.,
Surgeon to the Royal Infirmary, Glasgow.

[The following is taken from a Reprint of Dr. Newman's paper on Tuberculous Disease of the Kidney, in *The Lancet*, February 24, March 3 and 10, 1900:]

In tuberculosis the prognosis is most unfavourable, and is especially grave when the disease is not limited to one kidney but extends to the ureter, the bladder, or the other kidney. When, however, the lesion is limited to one kidney or to only a part of the organ, the outlook is more favourable. When localised the tuberculous material may become discharged, or it may dry up into a firm caseous mass, thereby becoming practically harmless, while the other kidney undergoes a compensatory hypertrophy. It is important to observe that in many cases considerable time elapses between the commencement of the primary tuberculosis and the invasion of other parts. It is by making an early diagnosis and by taking advantage of this interval that the surgeon can hope to save, or to prolong, the life of his patient.

A question now worth consideration is, can spontaneous cure take place? Or at the best can the progress of the disease be only checked? The more we know about tuberculous disease in all its aspects the greater is the tendency to believe in the possibility of spontaneous cure. As there are individuals whose tissues have the power of resisting the inroad of the virus, so also a person who is already infected may acquire sufficient resisting power to check the progress of the disease. When the tubercle bacilli introduced into the kidney are small in number or weak in virulence the tubercles remain discrete, the bacilli may die in the struggle of the tissues against their growth and propagation, and sometimes the only trace of the contest may be small fibrous nodules embedded in the renal parenchyma. These small scattered nodules might escape observation entirely were it not that in other parts of the organ the tuberculous process has been more extensive and more considerable patches of fibrous tissue have formed containing more distinct remnants of tuberculous products. Complete disappearance of the tuberculous material and its replacement by fibrous tissue which contains no infective material must be looked upon as the closest approach to a spontaneous cure, at least as far as local development of the disease is concerned.

Tuberculosis is apparently more virulent in some parts of the urinary tract than in others—for example, the bladder, the prostate, or the epididymis are more resistant than the kidney. The susceptibility of the different tissues of the body to given diseases varies greatly, in the same manner as some species of animals are more prone to certain infectious maladies than they are to others.

The disease becomes quiescent so long as left undisturbed, but if injured in any way it may again become active. Tuberculous foci, even although the great bulk of the mass has become inert as a consequence of degenerative changes, almost always contain tuberculous bacilli or their spores, so that in the event of injury the imprisoned organisms may again become virulent. When a localised tuberculous centre ruptures into the pelvis of the kidney the material may become discharged by escaping externally by a process of gradual disintegration and breaking down of the tuberculous mass and evacuation of the débris; or the organ may be destroyed by suppuration, and ultimately the only remnant left of the tuberculous process may be the fibrous tissue capsules.

While post mortem examinations upon individuals who have died from other diseases provide us with illustrations of nature's methods of cure, they also point out the kind of cases in which surgical intervention may be of some avail. Unilateral primary tuberculosis permits some time to elapse between the onset of the disease and the invasion to more distant parts. This period is in the great majority of cases not very long, but it is the only one in which the surgeon can interpose with advantage. A number of cases have been recorded where surgical treatment has prolonged life very considerably, or where the patients have enjoyed good health for several years after the operation. The most favourable cases for operation are those in which, from the very circumstances of the case, the diagnosis is difficult and uncertain. Surgical treatment is, therefore, often not called for until the disease is advanced, or it is even postponed to a time when serious complications have set in. When, however, the physician fully appreciates the advantages of early surgical intervention and endeavours to recognise renal tuberculosis at an early stage better results will be obtained than those hitherto achieved. The medical attendant who makes an early diagnosis in a case of renal tuberculosis renders a service to his patient as valuable as that of the surgeon who at a later date performs a successful nephrotomy or nephrectomy.

103.—THE DIAGNOSIS OF MAMMARY TUMOURS.

By Sir William M. Banks, LL.D,

Surgeon to the Liverpool Royal Infirmary, &c.

[The following is taken from the second Lettsomian lecture :]

We have to distinguish between chronic mastitis, small chronic abscess, a small fibro-adenoma, and a small tight cyst, and in these there is no absolutely diagnostic sign ; indeed, experience alone enables one to decide whether or not there is malignant disease. In connection with the diagnosis of mammary tumours there are one or two points of practice which, if employed as a matter of routine, might save an operator from occasionally falling into an error of what may be termed a public character. (1) I never remove a breast without first cutting into the tumour, so soon as the patient is anæsthetised, and on sundry occasions I have been extremely glad that I did so. I acknowledge to constant mistakes, being aware that omniscience is the exclusive property of very young men. (2) I frequently use a small exploring trocar and canula for diagnosis. I know that this practice has been much condemned. I was taught that it was very dangerous, but I found by practical experiment that it was nothing of the sort. It was held that it inflamed the tumour and accelerated its growth, and so if the tumour were inoperable it did damage to the patient. This view was quite true, because surgeons formerly put large and dirty trocars into the interior of solid tumours and inoculated them with septic material. If an exploring trocar and canula, with a metal handle be used, which can be boiled and then passed through a spirit tube, no harm whatever will result. On the contrary, many dubious questions can often be settled at the cost of a most trifling amount of suffering and to the enormous mental relief of the patient. (3) I always examine a breast tumour in three positions. In examining (say) the left breast in the first position the surgeon should stand behind the patient, with his left arm passed beneath her left armpit and his right arm over her right shoulder. The surgeon should be steady on his feet and the patient should be asked to press back against him. He can thus regulate the pressure he is putting on with his hands to a nicety, and make the best possible use of his sensibility. When the breast is examined from the front the surgeon puts a certain amount of pressure on it, and the patient yields from it, and so the judgment of weight, so essential to determining the nature of a soft body, is lost. In the second position the patient should be seated in a firm chair, and the surgeon should examine the breast from the front. In the third position the patient should be on her back on a sofa. Now in each of these positions the surgeon will acquire a new appreciation of the tumour, but the first is by far the most effective, for in it he will avoid the mistake, so liable to be made in the other two (especially the third) of crumpling up a mass of sound tissue so that it comes to feel just like a tumour. All things under the chin, down the neck, in the breasts and in the groins should be examined by the surgeon standing behind the patient. —*Medical Press and Circular*, *March* 21, 1900.

104.—CYSTS OF THE BREAST.

By T. BRYANT, F.R.C.S.,
Consulting Surgeon to Guy's Hospital.

The author read a paper before the Medical Society of London on cysts of the breast, their relative frequency, diagnosis, and treatment. The communication was to be regarded as a sequel to one read before the Medical Society of London in 1896. It was based on an analysis of 242 consecutive cases of breast disease as seen in private practice during the last ten years. The analysis was undertaken with the object of determining the relative frequency of the presence of simple cysts in the breast gland, and from it the following definite conclusions were drawn :—(1) Simple cysts of the breast are far more common than they are generally believed to be ;

(2) they are chiefly found in women during the same period of life as that in which cancer is met with; (3) they are mostly quite amenable to treatment without the sacrifice of the breast gland in which they are situated; (4) there is no reason to believe that women who have these cysts are more prone to cancer than others who have not. To prove the first conclusion, it was shown that, after eliminating 12 of the cases which had no reference to the diagnosis of cysts, there were 163 cases of diagnosed cancerous or sarcomatous tumours to 67 of diagnosed cystic disease, this latter or cystic group bearing to the former or solid group the proportion of 29 to 70; and, even when the cases as proved by operation were separated from those simply diagnosed, the conclusion was practically the same: "That of every four cases of breast disease simulating cancer one will prove to be an example of cyst disease." With respect to the sound conclusion that these cases of cyst disease of the breast were found in women at the same period of life as that in which cancer was met with, the author demonstrated that, of the 67 cases of diagnosed cyst disease, 77 per cent. were found in women over 40 years of age, and that in the groups of cases diagnosed and of cases proved by operation the proportion was identical. The author then passed on to show how confidently these cysts could be treated without the sacrifice of the breast gland, and that this result was secured in all the 44 cases of diagnosed cyst disease which were submitted to operation, either by simply laying open the cyst and plugging its cavity with iodoform gauze, after its inner surface had been destroyed by liquid carbolic acid or solution of iodine, or by the dissection of the cyst from the gland when anything like an intracystic growth was to be seen attached to its walls. He added that in no one of the cases tabulated had anything but a good and permanent recovery taken place, and that the same might be said of his antecedent practice. He pointed out, however, that when a cyst was found to contain solid cancerous or sarcomatous growth, the whole gland should be removed. He had been called upon to follow this practice on two occasions, and these cases had been classed with the solid tumours. The author was unable to bring forward any evidence to support the view that women who had these cysts were more prone to cancer than others. In the cases he had treated no such development had taken place, although he had no doubt that if such cases were allowed to take their course untreated nervous trouble might be anticipated. After dwelling upon the pathology of cystic disease, and upon the collateral symptoms of cancer and cyst disease as bearing upon their diagnosis, he pointed out the influence of the facts his analysis of cases had brought out should have upon practice; for if it were true that in one out

of every four cases of tumour of the breast simulating cancer, one would be of a cystic and simple nature ; and if all well-marked examples of cancer were eliminated from consideration, and the argument applied to those alone of a doubtful kind, in which there were no collateral symptoms of cancer to support a diagnosis, it did not appear to be wrong to conclude that in every two cases of doubtful breast tumour one would be cystic. Under these circumstances it would be wise for practitioners to apply in any individual case of breast tumour not clearly cancerous the argument of probability, and instead of assuming at once that the disease was probably cancerous, suggest that the case was as likely to be one of a simple cystic nature, for with such a possibility a line of treatment would be recommended and probably adopted, in which by an exploratory incision the true nature of the tumour would be made clear ; when, if the lump were due to a cyst, it could be dealt with without the loss of the breast ; and if it were cancerous the glands could be removed at a time at which the most favourable results might fairly be expected.—*British Medical Journal, April* 28, 1900.

AFFECTIONS OF THE EYE AND EAR.

105.—OCULAR THERAPEUTICS IN AFFECTIONS OF THE CORNEA.

By MARCUS GUNN, M.B., F.R.C.S.,
Surgeon to the Royal Ophthalmic Hospital, Moorfields.

Ocular therapeutics is not, as a rule, difficult ; we know exactly what we want to do, and we know the local action of our remedies. Whenever you meet with any form of keratitis, you will never be wrong in using, during the acute stage, hot fomentations of boric acid, with atropine applied locally. Supposing, however, that you find a peripheral, infiltrated, deep corneal ulcer threatening to perforate, there are certain risks attending the use of atropine. When the pupil is widely dilated, the iris is thrown into loose circular folds near the periphery of the anterior chamber. If, then, this peripheral ulcer bursts, the iris becomes extensively prolapsed into the corneal opening produced by the ulcer giving way, and ultimately there is a large anterior adhesion of the iris of the cornea : this is a common result. In such cases of ulceration we generally use eserine therefor, so as to make the pupil as small as possible, and render the iris tense, and thus aid in preventing such a result as I have described.

In cases of corneal abscess, and of infiltrated corneal ulcer, in any position, the condition sometimes does not improve under the hot fomentations and atropine, and a change to eserine will often produce an immediate beneficial effect. You may say such a course may be warranted as regards the cornea, but that in an extensive corneal affection the iris also is probably involved, and the contraction of the pupil due to eserine will aid in producing extensive adhesion of the iris of the lens capsule. Remember, however, your prime object is to save the patient's eye, and if it becomes a question whether the iris is to become adherent or the cornea is to be destroyed, the iris must be neglected ; because an eye that loses its cornea will never be of any use, whereas adhesion of the iris to the lens capsule admits of moderate vision, and of much improvement by subsequent operative interference. In hypopyon—that is, pus in the anterior chamber —hot fomentations will usually cause its disappearance before long, particularly if the hypopyon be fluid with a horizontal upper surface. I generally like to give quinine internally, in addition, in these cases. If, however, the upper surface of the hypopyon is more or less convex, we have not only a mere hypopyon to deal with, but an exudation of lymph also, which entangles the corpuscles. Hot fomentations probably will not remove this form of hypopyon, and you may act in one of two ways. You may make a fairly broad paracentesis at the lower edge of the cornea—broad, because the material will not come away as a fluid but as a clotted mass. Should it not come away satisfactorily, even after encouraging it by a gentle pressure with a curette at the lower edge of the wound, you should seize the purolymph with a pair of smooth forceps, and pull upon it very cautiously, when it will usually be found of sufficient consistency to be removed in this way. When a corneal abscess is complicated with hypopyon, I do not think the paracentesis should be done in this way ; but the incision should be made through the abscess, so as to let the inflammatory accumulation escape from the corneal layers as far as possible, cutting right through the cornea along the entire length of the abscess. Having completed this incision, a sudden gush of aqueous follows the withdrawal of the knife, and along with it the hypopyon is rushed forwards, and either escapes or becomes engaged in the corneal wound, whence it can easily be withdrawn with smooth forceps, as I have already explained. If the hot fomentation be then proceeded with, and a pad fastened pretty firmly over the eye, you will probably find that there is no return of the hypopyon, and that the ulcer is soon clearing and healing.

Of interstitial keratis I have nothing further to say; hot fomentations and atropine constitute the local treatment. You may give mercury; I generally do so, because I believe it is of service, and I give it in the form of grey powder. Some ophthalmic surgeons do not employ mercury in these cases, and yet obtain, I understand, good results.

In all cases of phlyctenular ulceration of the cornea you have to remember that the actual cause of the disease is a constitutional one, and that phlyctenulæ have a close association with the tubercular diathesis; of this I am positive. Whenever you find phlyctenulæ, whether in children or adults, carefully examine for other evidence of tubercle. If you find such indications, *e.g.* enlarged cervical glands, be very particular to give directions about fresh air, good milk and other nourishing diet, and order cod-liver oil and syrup of the iodide of iron. In all cases of keratitis, or in any inflammation of the anterior part of the eye accompanied by photophobia, you must give dark glasses, or use a large shade over both eyes; glasses are much the better. Generally speaking, goggles are not good for affections of the cornea, because they so effectually box up the eyes that the air in contact with the globe gets moist and impure; domed dark glasses are preferable on this account. Conical cornea, if advanced, has to be treated surgically. In the early stages, the curvature can be counteracted by the wearing of suitable glasses.—*Practitioner*, 1900. *p.* 658.

106.—PROTARGOL IN EYE WORK.

By SYDNEY STEPHENSON, M.B., F.R.C.S.,

Ophthalmic Surgeon, North-Eastern and Evelina Hospitals for Children.

[From Mr. Stephenson's paper:]

My experiments on protargol have been conducted on three classes of cases—(1) Blepharitic; (2) conjunctival, acute and chronic; (3) lachrymal.

(1) *Blepharitic.*—The remedy has been employed in the form of ointment of 10 per cent. strength, combined with a base made up of equal parts of vaseline and lanoline. In the seborrhœic forms I have found no particular benefit. In the eczematous type, however, that is to say, when crusts or scabs have been present, I have found rapid cure follow the removal of the crusts and the nightly application of protargol ointment on a strip of lint. The application was not painful, but otherwise I cannot say that it seemed to possess any very marked advantage over

the old-fashioned treatment by mercurial ointments. In the event of the last-named agents failing to effect a cure, protargol should certainly be tried as the first alternative remedy.

(2) *Conjunctival Forms, Acute and Chronic.*—(*a*) *Conjunctivitis due to gonococci.*—My first experiments were made with rather weak solutions of protargol, namely, 5 to 10 per cent. On the whole, protargol seemed to me at that stage of the inquiry to possess no very marked advantage—beyond the lessened painfulness—over the 2 per cent. solution of argentic nitrate commonly used in ophthalmic practice. I then commenced to increase the strength of the solutions, and for several months past I have used a 50 per cent. solution, with which I do not hesitate to treat the conjunctiva in severe cases twice within twenty-four hours. At the same time I order weak antiseptic cleansing lotions to be frequently used for the purpose of removing the discharges. As a result of this experience, I can now definitely say that in my hands protargol has given better results in the treatment of gonococcal conjunctivitis than any silver salt with which I had been previously acquainted. The presence of corneal complications is no contra-indication to the use of the strong solution of protargol. On the contrary, the existence of such ulceration is an additional reason for pushing the protargol. The above experiences relate to my experiences amongst babies. In older children, ranging in age between 1 and 15 years, when the age trouble is associated with pudendal discharge containing gonococci, the results obtained with protargol have been equally good. (*b*) *Severe acute muco-purulent ophthalmia, due to Koch-Weeks' bacilli.*—All treatment of this affection is open to the fallacy that the disease is self-limiting. Bearing that fact in mind, I have found protargol as good a remedy as can be desired, painted on the conjunctiva in a solution of 10 to 20 per cent. strength. There is no particular reason why it should not be used in 50 per cent. solution. (*c*) *In mild forms of conjunctivitis due to the presence of diplo-bacilli.*—Protargol in my hands has produced no appreciable results, and was indeed distinctly inferior as a therapeutic agent to such remedies as the sulphate or chloride of zinc, which appears to exert a kind of specific action when supplied in a sufficiently concentrated form to this very common condition. (*d*) *Conjunctivitis due to the Klebs-Löffler bacillus.*—In this class of malady I have not tried protargol. (*e*) *Trachoma.*—I have given protargol an extensive trial in chronic trachoma, and have dusted it over the affected surface once or twice daily for several months together. The results have not been tangible, except that in some cases there has been some slight staining of the conjunctiva. It is only fair to say, however, that I have met with a similar

negative experience in the application of most medicaments to that most intractable disease, with the exception of sulphate of copper and possibly of corrosive sublimate. In acute trachoma I found better results from a 2 per cent. solution of nitrate of silver, used for a week or more, until the acute symptoms had abated.

(3) *Lachrymal Affections.*—Protargol is, upon the whole, the best agent I have used to get rid of catarrhal inflammation of the lachrymal sac (dacryocystitis). In the treatment of these cases, after slitting up the lower canaliculus, the dilated sac is freely washed out with a 5 to 10 per cent. solution of protargol, until the return fluid is free from pus. At the same time probes are passed systematically through the nasal duct in order to dilate the stricture which is almost invariably present as an underlying condition. In some cases a distinct benefit has seemed to follow the administration of a 3 to 5 per cent. solution as a spray or douche to the nasal mucous membrane. No other agent I have tried appeared to reduce lachrymal inflammation so speedily as protargol. It may therefore be stated as a general conclusion that, although protargol is not an absolutely ideal agent in the treatment of external inflammatory affections of the eye, it nevertheless offers considerable advantages, and constitutes in some instances an important advance upon the silver salt that has been its immediate forerunner and predecessor.—*Edinburgh Medical Journal, March*, 1900.

107.—LOCATION OF FOREIGN BODIES IN THE EYE BY THE ROENTGEN RAYS.

By WILLIAM M. SWEET, M.D.,
Instructor in Ophthalmology, Jefferson Medical College, &c.

[From Dr. Sweet's paper. The details of the cases and othe parts are omitted here.]

During the past two years I have employed the rays for diagnostic purposes in 35 cases of injuries of the eyes, in which the character of the traumatism indicated the possibility of a foreign body having entered the globe. In 13 cases there was shown to be no foreign body lodged either in the eye or structures immediately adjacent, and the findings were verified in many of the patients by the subsequent removal of an opaque lens or by the clearing of a previously clouded vitreous. In the remaining 22 cases there was shown to be a foreign body either in the eyeball or orbit, the localisation being verified in 16 cases by magnet extraction or by enucleation, and in two cases by the ophthalmoscope. Three cases were gunshot injuries, and no operation was performed for the removal of the shot ; while one patient did not reappear after the radiographs were made.

The results indicate an accuracy in the determination of the situation of foreign bodies in the eye by the use of the Roentgen rays that is, I believe, not equalled by any other means. The correctness of the determinations is not influenced by the character of the metal, nor by the situation of the body, whether in the posterior or anterior portion of the globe or in the orbit. Until there is a more general appreciation of the importance of early diagnosis in injuries of this character, the percentage of failure to save the eye must necessarily be large. A foreign body in the eye is always a source of danger, and its presence should be promptly determined and the metal as promptly removed. I believe that in every case of injury to the eye from flying pieces of metal, where the clouded media prevents the use of the ophthalmoscope, a radiograph should be made at once to determine whether the metal has lodged in the eyeball. If the examination is negative, both surgeon and patient are reassured ; whereas, if the radiographs indicate that a foreign body is in the eye, an attempt to remove it may be made before a firm exudate has been formed about it. To wait until the inflammation has subsided in the hope of determining the situation of the metal by the ophthalmoscope consumes valuable time, and menaces the safety not only of the injured but of the sound eye.

Since the non-magnetic quality of copper compels the use of forceps for its extraction, the work is rendered much easier by a knowledge of the exact position of the body in the eye as shown by the x-rays.— *Treatment*, *February* 22, 1900.

108.—GONORRHŒA IN ITS RELATION TO DISEASES OF THE EYE.

By Frank Buller, M.D.,
Ophthalmologist to the Royal Victoria Hospital, Montreal, &c.

There are undoubtedly two forms of inflammation of the eye caused by gonorrhœa. The first, most frequent, and by far the most important of these is the well-known purulent conjunctivitis which can nearly always be traced to direct inoculation or infection of the conjunctiva with urethral virus. In most of these there is auto-inoculation by means of the fingers carrying the secretion from the urethra to the eyes. This accounts to some extent for the greater frequency of the disease among males, whose fingers are, for obvious reasons, more liable to become contaminated ; there are moreover, no doubt, a greater number of males affected with all forms of venereal disease owing to the different social habits of the two sexes.

I need not dwell upon the characteristic symptoms of gonorrhœal conjunctivitis, save that the specific micro-organism of gonorrhœa is always to be found in every genuine case. This makes a positive diagnosis always possible, but the presence of an acute purulent ophthalmia even in its early stages in a person obviously affected with gonorrhœa is sufficiently conclusive evidence as to the nature of the disease for all practical purposes, and an early diagnosis may be of vital importance for reasons I shall presently mention. In the absence of any source of auto-infection, or of positive facts as to the time and manner of infection, a bacteriological examination may be the only means of establishing the diagnosis, as there are undoubtedly purulent ophthalmias of a severe type induced by other infective material.

I do not find any modern writer describing the supposed metastatic gonorrhœal ophthalmia of earlier authors, and I think we may fairly assume that bacteriology has thrown this hypothetical disease out of court. On the other hand it has been shown that so long as a person has a discharge from the urethra containing gonococci at all, such a person is not free from danger of contracting gonorrhœal ophthalmia. There are undoubtedly some cases of this disease much more virulent than others. The explanation of this clinical fact is largely theoretical, and although a mild type of the disease does occasionally present itself, the rule is that a large percentage of eyes attacked by gonorrhœal ophthalmia will perish, or only recover in a damaged condition, despite the best treatment we know of even at the present time.

The purulent ophthalmia of early infancy is nearly always due to the same kind of infection, and still, unfortunately, contributes a large proportion of inmates to the blind asylums. This is a deplorable fact when we consider that this disease, when properly treated from the outset, rarely causes loss of vision, and it does seem to me that legislation might well be invoked to protect young infants more efficiently against the ignorance and neglect which year by year renders so many human beings helpless for life at the very outset of their existence. According to Fuchs there are in Europe alone more than thirty thousand persons in the asylums for the blind from this cause alone.

The other form of inflammation of the eyes caused by gonorrhœa occurs as an iritis, and, so far as I have seen, always in the later stages of gonorrhœa, and in connection with other manifestations of gonorrhœal rheumatism ; exceptionally, we must be prepared to meet with this complication as the only evidence of the arthritic tendency, and there are cases on record in which an iritis or an arthritis occurred indifferently with every attack of urethritis the individual contracted.

It is generally conceded that in gonorrhœal iritis there is no invasion of the intra-ocular tissues by the micro-organisms of gonorrhœa, but that the eye is merely irritated by the systemic toxines after systemic infection ; the characters of the iritis are in favour of this view, being usually of the so-called serous variety, with little tendency to the exudation of plastic lymph, whilst in gonorrhœal urethritis there is a singular tendency to the exudation of a highly plastic material, and with this the micro-organisms are found in the tissues of the joints affected.

The treatment of gonorrhœal iritis does not differ materially from that of iritis of rheumatic origin. It would, however, seem a rational procedure to rid the patient as soon as may be of the urethral disease, and so free him from the continued source of infection. I am not sure that modern ophthalmology has made any great advances in the way of successfully treating the virulent forms of gonorrhœal ophthalmia ; indeed, we still rely on the use of remedies that were commonly employed fifty or sixty years ago, viz., nitrate of silver and solution of perchloride of mercury ; the former as an application to the averted lids once or twice daily in 1 or 2 per cent. solution, the latter as a cleansing wash, 1-5000. Frequent and thorough cleansing with some mild antiseptic is essential. Boracic acid 3 per cent., permanganate of potash, 1-10 of 1 per cent., or dilute peroxide of hydrogen and other antiseptic solutions are no doubt quite as useful as the perchloride, only the cleansing must be thorough, and it is a good plan to keep the conjunctival sac filled with molten vaseline after each cleansing. Protargol and solution of argonin have recently been much vaunted, but in so serious a disease it is something of a risk to use remedies that have not an established place in therapeutics.

Bacteriological investigations have demonstrated that in the early stages of gonorrhœal ophthalmia the gonococci are present only in the conjunctival epithelium, but that later on they penetrate deeply in the subconjunctival tissues. If, therefore, an early diagnosis can be made, the logical inference is that an antiseptic, powerful enough to render aseptic the entire epithelial structure, should be capable of arresting the disease. Acting on this assumption, in the two last cases I have seen where an early diagnosis could be made (within thirty-six hours of the onset of the disease), I have been fortunate enough to so modify its course that recovery with good vision has occurred. In both, the onset gave all the signs of a most virulent form of gonorrhœal ophthalmia which would, I believe, have ended in destructive ulceration of the cornea under ordinary circumstances. The patients, one a male, the other a female, had gonorrhœa of not more than two weeks duration, and came under my notice the day after the eye symptoms appeared. I explained the gravity of the disease, and obtained consent to an abortive plan of treatment, which I carried out in the following manner:—The conjunctiva was thoroughly washed with perchloride of mercury solution, 1 in 3000, the patient etherised; the outer canthus freely divided, the lids thoroughly everted so that every part of the conjunctiva sac was exposed, irrigated with warm water, and, after protecting the cornea with vaseline, the entire conjunctiva was freely swabbed with an 8 per cent. solution of nitrate of silver, and after a few minutes with perchloride, 1 in 2000, and, lastly, smeared abundantly with vaseline and cold borated compresses applied, these being renewed frequently and vaseline used freely. After twenty-four hours there was nothing but a severe muco-purulent ophthalmia, the secretion being distinctly more mucoid than purulent. In both the disease ran a fairly mild course, and terminated in recovery, with but little impairment of vision. The cornea did not escape some ulceration, but by no means destructive; even this I think would not have occurred had it been possible to protect the cornea completely from the action of the silver nitrate. These results are so encouraging that I feel sure the method is worthy of a further trial under similar conditions.—*Montreal Medical Journal*, *March*, 1900.

109.—ON HYPOPYON.

By Percy E. Turner, M.B., B.S. Dunelm., D.P.H. Oxon.,
Late House Surgeon and Acting Assistant Surgeon,
Kent County Ophthalmic Hospital.

[From Mr. Percy E. Turner's Stephen Scott Prize Essay:]

Hypopyon—pus in the anterior chamber—is never a primary condition. In every case of hypopyon there is some change in the iris or ciliary body, or both, so that all have this one condition in common; but further, as a simple classification, all cases of hypopyon may be divided into two main groups—(*a*) those in which the primary ocular cause is in or through the cornea; and (*b*) those in which the interior parts of the eye are first affected. And if these two groups be each denoted by a name, the former may be called the group of "hypopyon-keratitis"; the latter that of "constitutional" purulent inflammation of the anterior uveal tract—*i.e.*, including purulent iritis, cyclitis, and irido-cyclitis. Of these two classes, the first is by far the greater in point of numbers ; for although iritis and the other conditions named form a sufficiently numerous class, yet the proportion of that number that develop a definite deposit of pus in the interior chamber is but small, while cases of septic inflammation of the cornea are not only far commoner—according to the statistics of the Kent County Ophthalmic Hospital about five or six times as numerous—(the actual totals of admissions during the last thirty-six years are 9,584 and 1,668 respectively)—but the proportion of them complicated with hypopyon is greater.

Etiology.—I have already mentioned that there is always a morbid condition locally prior to the advent of the pus in the anterior chamber, but we may go further back than that corneal or uveal inflammation and inquire as to the yet prior causes. First of all it may be stated that a very large number of those suffering from this disorder are in a feeble condition of physical health generally. Thus the children are very often "strumous," or generally neglected and ill-nourished. The older patients are most commonly in later middle life, when the recuperative powers of the tissues begin to flag, and are very frequently afflicted with some chronic or low form of inflammation about the eyes, such as chronic dacryo-cystitis or granular conjunctivitis. As to age, some interesting deductions may be made from the table of statistics of 189 cases, which, by the kind permission of the ophthalmic surgeons of St. Bartholomew's Hospital, London, and the Kent County Ophthalmic Hospital, Maidstone, respectively, I am enabled to set forth. Fifty-four of these cases are from the case-books of the former hospital, and the remainder from the records of the special institution mentioned.

To summarise my figures briefly, one-fourth of the cases occur in the first 25 years of life, another fourth in the succeeding 20 years, and the remaining two-fourths in the years past 45.

Now to come to the cases of corneal hypopyon. The ulcers through which the infective organisms concerned or their products gain access to the corneal tissue, and in the end give rise to the presence of pus in the anterior chamber, may be divided into two main classes—(*a*) traumatic, (*b*) non-traumatic, although it is very probable that some at least of those placed in the class (*b*) have really started from some slight traumatism of which the patient is unaware.

Treatment.—Many things have been suggested. Take, for instance, the detailed list given by Noyes :—Early hot fomentations and atropin ; antiseptics ; if small, scrape ulcer ; if more than 2 mm. across, cauterise ; if more than 6 mm.

across, Sæmisch's incision, or iridectomy as recommended by Graefe. Or cauterisation with pure carbolic acid (Geirsvald). Or the use of eserin by day and atropin by night, as suggested by Hansell and Reber. But I think I can best conclude this paper by simply stating the treatment now almost invariably used at the Kent County Ophthalmic Hospital, and which I have myself seen to be productive of very good results. The general principle is, of course, to treat the cause. So, in the "constitutional" cases, where the immediate cause is iritis, it is treated as such and atropin used; while the more remote condition, such as syphilis or rheumatism, is, of course, treated in the ordinary way.

In the corneal cases there is a corneal infection: therefore, an antiseptic douche frequently, such as Lotio acidi borici (gr. x. ad ℥i.) in mild cases, or Lotio hydrarg. perchlor. (1 in 4,000) if more severe. The patients are generally out of health: therefore, good food and cod liver oil, or some preparation such as Syr. ferri iodidi. There is generally a low state of nutrition existing in the eye, as in the other tissues: therefore, stimulate by moist heat as fomentations, and increase the supply of nutriment locally by instillations of eserin (gr. i. ad ℥i.). Moreover, in many early cases the tension is distinctly increased, so that this drug acts beneficially in a further manner by tending to lower it. In nearly all cases where the pus does not reach up to the lower edge of the pupil these measures prove successful, and when the pus is entirely gone atropin is used for a short time to dilate the pupil again. But should the pus reach higher than the region indicated, or should the former measures not prove successful, paracentesis is performed. This is most easily done by making an incision 4 or 5 mm. long with, say, a bent keratome in the lower part of the cornea, through which very frequently the pus is shot out by the pressure of the aqueous immediately on withdrawal of the blade. Should, however, the exudation be very fibrinous and so not readily escape, it can be extracted by the use of a pair of fine forceps. In exceptionally severe cases, with much purulent infiltration of the cornea, it may be necessary to treat by making a long vertical incision from below upwards with a Beer's knife. Whenever corneal section is required atropin is used rather than eserin, in order to try and avoid synechiæ. It is often necessary to keep the wound open for some days by the use of a spatula.

Finally, as a general conclusion, it may be said, in the words of Jessop: "In children it (hypopyon) is not such a serious symptom, and quickly disappears on treatment; but in adults it is much more dangerous.—*St. Bartholomew's Hospital Reports, vol.* XXXV.

110.—OPTIC NEURITIS IN CHILDREN.

By Leslie Buchanan, M.B.,
Assistant-Surgeon and Pathologist, Glasgow Eye Infirmary.

[From Dr. Buchanan's paper :]

The writer has now seen so many cases of children and young people in whom optic neuritis, present or past, is associated with enlargement of the cervical glands, that he has thought it a fit subject for brief consideration. In the first place, it may be said that the optic neuritis here indicated must be distinguished from that seen in cases in which there are refractive errors uncorrected. In the cases at present under consideration, the change is a distinct optic neuritis, not, as in those of refractive type, a chronic congestion with, it may be, a certain amount of œdema and perivascular exudation ; the nerve is almost invariably enlarged, and when it atrophies it leaves not a small, but a large white nerve. In children optic neuritis is not at all common ; but it may follow several conditions without being observed, such as the exanthemata, acute rheumatism, &c. Probably the disease, however, in which the change is most frequently looked for and found, is meningitis of tubercular origin.

Now, as regards the enlargement of the cervical glands. Nicoll, who investigated the subject, says that "80 per cent. of all cases of enlarged glands in the neck, due to naso-pharyngeal mischief, are, or are likely to become, tubercular." In hospital practice we see large numbers of cases of conjunctivitis and keratitis with enlarged glands in the neck, thickened lips, &c., and we have no hesitation in saying of them "tubercular." This statement has remained uncontroverted, and indeed the opinion of most authorities goes to show that, even if the percentage quoted be too high, a very large preponderance of such enlarged glands are either tubercular or pretubercular in origin. Putting the two facts together, then, the writer has come to the conclusion that it is reasonable to assume that, in many of the cases under consideration, the cause of the neuritis has been, or is, meningitis, tubercular in origin and mild in type. One can usually obtain a history of some gastric disturbance in such cases, at some prior date ; and what has been looked on as an attack of "bile" may in reality have been an attack of tubercular meningitis, which, subsiding before the grave symptoms of the third stage set in, has been unrecognised. In many cases it is the recognition of optic neuritis which enables the diagnosis to be made, so that if such cases are not carefully examined and neuritis not observed, the disease may be missed. Then, again, optic neuritis is not a late sign of meningitis, for Gowers says that, although it usually comes on after the seventh day, he has seen it as early as the fifth day of the disease. It is, from this, clear that if the meningitis subsides after this date, the optic neuritis may be the only permanent change.

Henoch says of tubercular meningitis that "it is one of the commonest and most fatal diseases which affect childhood"; and Gowers, that optic neuritis is present in some "50 per cent. of cases, whilst in two-thirds of the remainder slighter changes will be found if looked for carefully." With the exception, perhaps, of Osler, all authorities are agreed that recovery is possible, and several well authenticated cases have been recorded. Bramwell, Panas, and others state that optic neuritis is present in a much greater percentage of cases of tubercular than of simple meningitis, more especially, as Knies has pointed out, if there be present at the same time a solitary tubercular tumour in some part of the brain. From this it may be reasonably concluded that optic neuritis is indicative of tubercular rather than simple meningitis. But the writer in no way wishes to confine the source of irritation to meningitis, for he is well aware of the fact that Gowers wrote of this subject, "The symptoms of such a (tubercular) tumour sometimes closely resemble those of tubercular meningitis, but much more frequently pass away."

The existence of miliary tubercles in the choroid coat of the eye might be looked for as a strong corroborative evidence of the existence of tubercular meningitis, were it not that they are but rarely seen, although Swanzy thinks they are present in 15 per cent. of cases. Probably, however, but few will agree with this percentage.

To sum up, then, the writer would desire to leave the impression that, unless another distinct cause can be found, if either atrophy or inflammation of both optic nerves be seen in a child or young person, the presence in the neck of enlarged glands, even of very moderate size, is an indication that there may have been, or may be, a meningitis or a tubercular growth in the brain.—*Edinburgh Medical Journal*, *May*, 1900.

III.—TOXIC AMBLYOPIA.

By J. O. STILLSON.

[Dr. Stillson reports a case, and emphasises the detecting of this disease in all cases where railroad employees are affected :]

The author (*Ophthalmic Record*, October, 1899) is convinced that this disease is more prevalent than heretofore held, and that functional disturbances of vision, in one or both eyes, due to the introduction of drugs and other poisonous agents into the general circulation, occur frequently in both sexes. A large percentage of these cases may be found among railroad employees and travelling men, people who lose much sleep, who live with great irregularity as regards sleep and diet, who consequently smoke much, and who, though not excessive drinkers, still imbibe more or less regularly, especially when hungry before meals or early in the morning, times when the conditions are such that the spirituous toxicity finds most ready entrance, making a lasting impression upon the central nervous system. It is probable that the excessive use of coffee and tea, the habitual taking of drugs of one kind or another by women, *e.g.* bromides, bromo-caffeine, phenacetine and other coal tar derivatives, small but more or less regular doses of spirits, will, in some cases, be found responsible for functionally disturbed visual acuity, particularly where the affection is bilateral and where sometimes the diagnosis has been set down as hysterical amblyopia.

Besides this, there is a certain per cent. of cases of choked disc, traceable directly or indirectly to menstrual disorders, and the border line between those cases of mere toxicity, resulting in functional or evanescent disturbances to vision, and those which become distinctly inflammatory in character from meningeal and basilar changes which accompany the total suppression of this function, will probably never be satisfactorily explained. Moreover, besides whisky and tobacco, many other agents have been found to produce like conditions, temporarily or permanently, and our best observers have met with cases attributable to other drugs, *e.g.* lead in painters, stramonium, which is found in asthma cigarettes, quinine in excessive doses, opium, &c. It is probable, Stillson thinks, that certain elements existing in the system under certain depraved conditions, where auto-intoxication may be said to exist, as in diabetes, as well as certain chemical combinations occurring in the stomach under anomalous conditions, either alone or combined with the elements of worn-out tissue waste, have been known to bring about disturbances in the visual fields, together with optic nerve changes, characteristic of this disease, in either the acute or chronic form.

The usual course of this disease is a return to complete recovery, *i.e.* whenever the toxic element is completely removed from the system, provided that structural changes in the optic nerve itself have not gone too far. Atrophy and sclerosis of the interstitial connective tissue having once taken place, the improvement will be slight. But those patients who have had good vision before an acute attack will, as a rule, recover.—*From abstract in Mr. Simeon Snell's periscope in the Sheffield Quarterly Medical Journal, February*, 1900.

112.—COMPLETE OSSICULECTOMY IN CHRONIC OTITIS MEDIA.

By R. LAKE, F.R.C.S. Eng.,
Surgeon to the Metropolitan Ear and Throat Hospital;
Assistant Surgeon to the Royal Ear Hospital, &c.

[From Mr. Lake's paper :]

Removal of the remains of the tympanic membrane and of the larger ossicles has been a recognised mode of treatment for chronic suppurative disease of the middle-ear for some considerable time. From a table of 50 cases it is proved to be a very successful operation, that it is entirely free from danger to health, and, finally, that the hearing is often improved and rarely, if ever, diminished. But perhaps the point of all which will be of most general interest is the probability of cure. It is not all cases of suppurative otitis media that yield to the operation. Unfortunately, many, and especially amongst the class from which hospital patients are drawn, require the radical operation, foremost amongst these being those accompanied by cholesteatomata of the attic and cases of destruction of the wall of the meatus in the posterior surface. In these cases the surgeon should, in my opinion, perform the operation, following it up later with the larger should it prove insufficient. I cannot go so far as some of our continental *confrères* who use it even in cases which threaten graver mischief.

The indications for the operation appear to me to be divisible into two main subdivisions—those for the cure of chronic suppurative otitis and those for the improvement of hearing after the cessation of discharge. It is difficult, and indeed impossible, to place any time-limit as to how long chronic otitis media suppurativa will remain harmless, even when unaccompanied by any other symptoms. As a general guide, one may say that this duration is directly affected by the effects of treatment and by the situation of the perforation. An uncomplicated otorrhœa which has resisted all forms of treatment for six months is certainly a case for ossiculectomy. This becomes more imperative when the perforation is situated in the attic or upper posterior segment of the drumhead. A perforation in either of these situations is more surely indicative of a lesion in some part of the ossicular chain; for instance, pus pouring down over the long arm of the incus and head of the stapes first destroys the joint and then the bones to a variable extent. Again, these perforations, if they heal, as they often do under appropriate treatment, are usually accompanied by a marked diminution in the hearing power if the suppuration is of long duration, which loss can often be remedied to a large extent by a careful operation. A very useful practical test has been formulated by Mr. A. Cheatle, viz., if in any case it is desirable to ascertain the continuity or discontinuity of the ossicular chain the membrana tympani is gently stroked with a Hartmann's probe ; in the first instance this is *heard and felt*, in the second it is *felt* only. When the attic is the seat of cholesteatomatous degeneration it is especially imperative to do more than simply remove the ossicles ; the outer attic wall must also be removed. This removal of the outer attic wall is now becoming considered as an integral part of the operation, though in the cases quoted it was not done, as I was only led to adopt it later from its good results in the hands of others, but I now consider it of such importance that I do it in all cases.

The indications for the operation are briefly as follows : (1) Intractable disease of the attic with a perforation in Shrapnell's membrane, especially if accompanied by definite caries or deafness ; (2) intractable disease with perforation in the posterior superior quadrant ; (3) intractable disease with considerable destruction of the membrane in any other situation ; (4) residual deafness after suppuration without nerve deafness. Any more serious condition becomes a case for the radical operation, but in the foregoing there is, in my opinion, justification for attempting to avoid more serious measures.

The Condition of the Ossicles.—In none of my cases in which the operation in question has been performed for chronic suppurative disease have the ossicles been intact.

These 50 cases are almost equally divided amongst the sexes, but nothing can be deduced from that fact, as the proportion of otorrhœas in the sexes is fairly equal. As to cure, no less than 42 were cured, although three had temporary relapses, and in several of the remaining eight the patients disappeared before a cure was effected, and some may now be well, if all are not. Improvement was noted in the hearing power in 21 cases. In three cases hearing returned to normal, in four cases it was very much improved, and in the remaining 14 the improvement was sufficient to be appreciated by the patients and their friends and was demonstrated as well by careful tests. The right ear was the seat of disease in 29 cases and the left in 21 cases. The average age of the patients was 22·4 years, and the average duration of the disease was 13 years. From these figures can be derived information on all points save as to the time that should be allowed to pass before taking some radical step to check the disease, and the surgeon must rely upon his own judgment in this matter rather than upon any written rule. —*The Lancet*, *March* 10, 1900.

113.—MASTOID OPERATION IN CHRONIC SUPPURATION OF THE MIDDLE EAR.

By C. A. Ballance, F.R.C.S.

The method of carrying out the mastoid operation for the cure of chronic purulent otorrhœa has been recently discussed. An extremely interesting and valuable contribution was made at a meeting of the Royal Medical and Chirurgical Society of London, held on January 23 and February 13, 1900, by Mr. Charles A. Ballance, who described and illustrated the immediate healing of the cavity left in the bone as the result of the operation by means of epithelial grafts. At the beginning of his paper the author points out how the operation that is applicable in chronic disease, is inapplicable in acute cases. It is unfortunately still necessary to emphasise this point. In acute cases in which a mastoid operation is necessary, only the antrum, or the antrum and such mastoid cells as may be suppurating, should be opened ; the tympanum and the external auditory meatus must be left undisturbed. The object aimed at by the surgeon in these cases is to establish free drainage and arrest the inflammatory process. The function of the organ must be duly kept in mind, and there must be no attempt to injure the delicate structures of the middle ear. In cases of chronic suppuration, on the other hand, we have a different state of affairs to deal with, and the only rational treatment in such cases, once it has been decided that an operation through the mastoid should be performed, is to open up fully and extensively the diseased bony cavities, and to secure the complete removal of all diseased tissue. To thoroughly effect this, not only must every focus of disease be removed from the mastoid, the antrum, and the tympanum proper, but these various cavities must be thrown into one by the removal of the bridge of bone which overhangs the communication between the antrum behind and the attico-tympanal cavities in front. This further admits of the removal of the outer wall of the attic, which is formed by the bone at the inner end of the roof of the external auditory meatus, and enables this cavity to be thoroughly dealt with, along with certain cells which extend from the attic into the meatal roof. The complete exposure of the parts and the removal of all disease fulfils the first condition of the operation ; the healing of the large bone wound from the bottom constitutes the second condition. This object may be attained by the epithelial grafting of the tegmina antri and tympani, of the inner walls of the antrum, attic, and tympanum, and of the fresh-cut bone forming the anterior and superior walls of the inner extremity of the enlarged osseous meatus. For this purpose a second operation is carried out by Ballance, at a varying period after the first. In the case of children this is undertaken at the end of one week, and in adults at the end of ten days, two weeks, or even three, depending upon the covering of the bony cavity by a layer of healthy granulation tissue. The day before the second operation the plug is removed from the external meatus, and the cavity is irrigated several times with 1 in 40 carbolic lotion. On the morning of the operation it is washed out three or four times with warm sterile normal saline solution. The original incision behind the ear, which had been sutured throughout at the first operation, is again opened and the pinna displaced forwards. After the bony cavity has been carefully and gently dried by means of gauze mops, large epithelial grafts are taken from the thigh or arm of the patient. The roof of the antrum and attic, and the inner wall of the antrum, are easily covered with one large graft, but the chief difficulty lies in the attempt to apply it to the inner wall of the tympanum. In order to adjust the grafts to the bone, Ballance makes use of steel lifters, such as are employed for lifting microscopic sections. Small pieces of moist gauze fixed on angular forceps are then used to press the graft firmly against the bone, while small probes, with pear-shaped heads, 6 or 4 mm. in diameter, are of good service for a similar purpose when the irregular recesses of the bone cavity are being dealt with. Particular stress is laid upon the necessity of grafting the fresh-cut surface of the superior wall and the upper portion of the anterior wall of the enlarged osseous meatus.

As a protective to the grafts, the author has, after various experiments, found pure gold leaf a suitable material. It can be easily sterilised; it is soft, and can be adapted to the irregularities of the cavity, and it is not acted upon by the living tissues. After the gold leaf has been placed in position, a narrow strip of dry iodoform gauze is inserted, and the mastoid flap is again completely closed and the external dressings applied. A week later the plug is removed, while the gold leaf is left undisturbed for three or four more days, after which it is removed with forceps, the parts being first gently irrigated. The author holds that the after-treatment of cases operated upon by the radical method is much curtailed by this system of grafting, and that to the surgeon and patient alike the results prove much more satisfactory.—*From Drs. McBride and Logan's Summary in the Edinburgh Medical Journal, May*, 1900.

114.—TREATMENT OF SUPPURATIVE AURAL THROMBO PHLEBITIS.

By Dr. J. H. Nicoll.

[From the remarks made by Dr. Nicoll at the Glasgow Pathological and Clinical Society :]

With regard to the general question of the operative treatment of these purulent intracranial sinuses, experience is not yet sufficiently wide to enable us to reach broad conclusions of much value. It is clear that the statistics in such affections are steadily improving. This is probably to be accounted for in two ways—(1) Increasing confidence enables us to carry out radical operations on a scale which ten years ago would have been regarded as unjustifiable ; (2) we get those cases sent at an earlier stage than formerly. The work of Macewen, Horsley, and others is convincing the profession that cases of purulent affections of the intracranial sinuses are, for the most part, fatal unless treated by operation ; that operative treatment has already cured a number ; and that delay in having recourse to it frequently destroys its chance of success. Ligature of the internal jugular in the neck—suggested by Horsley—largely limits, though it does not entirely remove, the chances of general pyæmic infection. The operation is not difficult, and can be performed without much additional expenditure of time. In certain cases it is impossible, without opening the sinus, to tell whether thrombosis exists. Dr. Barr and I can refer to several where, on the sigmoid sinus being exposed, it had a healthy bluish appearance, and was free from granulation tissue externally, and exhibited pulsation, and was collapsible by digital pressure, and where we concluded from these evidences that the vessel contained fluid blood and not thrombus, and, therefore, did not open it. In these same cases we found, post-mortem, evidence of our error. The sinus did contain a stream of fluid blood on its external or superficial side, but along its internal or deep side (that in contact with intracranial abscess or purulent meningitis as the case might be) adhered a purulent thrombus, which had been the starting-point of a general pyæmia.

So far as present experience forms a guide, therefore, it would appear to be wise, in cases in which presumptive evidence of thrombosis exists, to open the sinus before deciding that such is not present. In following such a course, however, safety will, in a large measure, depend on the recognition of two things—(*a*) If the sinus be opened through a purulent mastoid cavity which has just (at the same operation) been exposed and cleared of its contents, there is considerable risk of pyogenic material finding its way from the latter into the sinus, which, possibly, the exploratory opening has demonstrated to be free from purulent thrombus. Under such circumstances, delaying opening the sinus for twenty-four or forty-eight hours (during which time the mastoid cavity has been sterilised by antiseptic packing) will remove or lessen the risk. Should the symptoms be too urgent to admit of delay, the risk may be minimised by the expenditure of some time during the operation in thorough antiseptic treatment of the bony cavity previous to opening the sinus. (*b*) A sinus under suspicion ought not to be opened unless the operator is prepared to at once proceed with a more or less extensive operation for the complete removal of the purulent thrombus, should such be found. Imperfect measures may result merely in the breaking up and detaching of purulent emboli, with resulting fatal pyæmia.—*Glasgow Medical Journal*, *December*, 1899.

115.—AURAL MANIFESTATIONS OF LEUKÆMIA.

Deafness is not an uncommon symptom of leukæmia. It may appear early, and has been attributed to hemorrhage. Nausea and vomiting also may occur early. Vertigo and headache are sometimes present, and syncopal attacks may occur. An interesting case in which symptoms of acute Ménière's disease, or aural vertigo, were observed in a patient suffering from spleno-medullary leukæmia was reported by Weber at a recent meeting of the Royal Medical and Chirurgical Society. The patient was a man thirty-one years old, with advanced leukæmia and a history of a malarial fever six years previously, who presented great enlargement of the spleen and the liver. Death resulted from collapse following internal hemorrhage. During life ophthalmoscopic examination disclosed the presence of so-called leukæmic retinitis. About six months before death acute aural symptoms set in, namely, headache, vertigo, and vomiting. Examination indicated a leukæmic affection of the internal ears, and marked deafness developed within a short time. On post mortem examination a portion of the scala tympani and the perilymphatic spaces of the semicircular canals were found filled with newly formed fibroid and bony tissue. The scala vestibuli, the canal of the cochlea, and the vestibule presented only comparatively slight changes. The nerve trunks exhibited no obvious alteration.

A study of similar cases reported indicates that the pathological appearances presented by the internal ear after death differ in different cases, partly in accordance with the length of time that has elapsed between the onset of the acute aural symptoms and death. In most cases the post mortem appearances suggested that the onset of aural symptoms (vertigo, headache, vomiting, and deafness) marked the occurrence of more or less extensive extravasation of blood into the semicircular canals and the cochlea, the process being doubtless nearly always more or less symmetrical and simultaneous in the two ears. In such cases, although apparently lymphocytic infiltration and hemorrhages may be found in various parts of the ear after death, the labyrinthine hemorrhage is probably the essential lesion responsible for the acute aural phenomena. Subsequently vascularisation and organisation proceed in the usual manner, the clot becoming gradually replaced by newly formed connective tissue, connected closely by its blood vessels with the endosteum of the bony labyrinth. In the course of time, should the patient live long enough, more or less ossification occurs in the newly formed tissue, and irregular processes of bone project inward from the walls of the bony labyrinth. At this stage of the pathological process transverse sections of the bony semicircular canals generally show the membranous canals surrounded by a meshwork, or by irregular masses of newly formed bone and fibroid tissue completely filling up the perilymphatic spaces.

In addition to the cases presenting acute apoplectiform aural vertigo there occur also cases with aural troubles of a less severe or less sudden nature. In these the symptoms may be in part wholly independent of the leukæmia, but in part due to small hemorrhages and patches of lymphocytic (leukæmic) infiltration in various parts of the auditory apparatus.

At the same meeting Mott related a somewhat similar case. A man aged 38 years, who had been in poor health for two years following an attack of influenza, was seized six months before coming under observation with sudden pain in the left side of the abdomen, and a little later with pain in the head and deafness, with loss of power of maintaining equilibrium. The deafness came on suddenly, first in the left and then in the right ear. The patient was a little cyanosed, the temperature 97 deg. F., the abdomen distended, the liver, spleen, and lymphatic glands enlarged. The hæmoglobin estimation was 54 per cent., and the leucocytes were enormously increased, almost equalling the red corpuscles in number. The muscular powers of the patient were good, and there was no loss of co-ordination in the arms, but he could not balance himself in walking, and could not stand at all with his eyes shut. The knee jerks were absent on both sides. Vision was imperfect ; accommodation was good, but the reflex action of the right pupil was sluggish. The fundi showed slight changes. Hearing improved considerably. Taste and smell were normal. After seven days the man was found to be stone-deaf in both ears on waking in the morning, and three days later he died in coma. Upon post mortem examination the liver was found to weigh 5.5 kgm. and the spleen 1.8 kgm. The brain was congested and the seat of hemorrhages. The petrous bone was soft and friable from rarefaction. The spinal cord and nerves exhibited no alteration. There was hemorrhage into the posterior spinal roots and into the cochlea. The hemorrhage into the semicircular canal accounted for the loss of equilibrium. This and the deafness were accounted for by hemorrhage into the cochlea and labyrinth.—*A leading article in the Medical Record, April* 21, 1900.

AFFECTIONS OF THE SKIN, &c.

116.—DERMATO-THERAPEUTICS.

By Frank H. Barendt, M.D. Lond., F.R.C.S. Eng.,
Physician for Diseases of the Skin, Royal Southern Hospital.

[The following is from Dr. Barendt's paper :]

Dusting powders are of great service in dermato-therapeutics. Although called indifferent remedies, I am inclined to regard them of great value. Primarily their use is indicated in itching conditions where the epidermis may not be broken, at least to the naked eye, but where there is, nevertheless, an exposure of the nerve endings, inducing intolerable irritation. Here the fine particles, like the small pebbles which fill the interstices of paving setts, are worked into the crevices and fissures of the horny layer. The gaps are thus closed, and irritation is relieved. Frequently, where the skin is dry, oiling the surface fixes the dusting powder, and renders its effects more lasting. As a type of dusting powder I use equal parts of Venetian talc, oxide of zinc, and starch, and with this various medicaments may be blended, *e.g.*, menthol. Dusting powders may be viewed as ointments with the grease omitted, and during the day the patient may use a dusting powder and at night the same medicaments exhibited as an ointment. It is of service to use a dusting powder on the top of an ointment, just as after using an ointment containing an active drug, *e.g.*, resorcin, a protective paste may be spread. Dusting powders, *e.g.*, the exsiccated carbonate of magnesia, are sometimes used for their absorbing effects, and in certain cases of sweat eczema and intertrigo the curative value of these is well seen, provided soap and water are studiously kept away from the already macerated epidermis. The value of dusting powders is appreciated in those cases where we do not wish to interfere with the occupation of the patient, and at the same time we do not wish to intermit the use of the remedy we have prescribed in the form of ointment. In eruptions of the face, neck, and hands, by resorting to flesh-tinting agents (Armenian bole), we can employ powders without attracting any undesirable attention.

Pellicles which have collodium flexile for their basis, gelatines, varnishes, traumaticins with a basis of liquor gutta-percha (a solution of gutta-percha in chloroform), medicaments suspended in mucilage of gum arabic or tragacanth, are some of the more recent vehicles introduced into dermato-therapeutics. Their use is limited to local skin affections, and in many respects, although "cleanly," *i.e*, not greasy in nature, are not so efficacious as ointments, in spite of various laudatory records. Pellicles are of service in conveying drugs the action of which it is desired to prolong without the risk of any extraneous disturbance. For example, a pellicle of salicylic acid is useful in removing callosities, and the majority of corn solvents are on this basis. Carbolic acid can be prescribed in the form of a pellicle, and as an application for isolated ringworm, and one that can be applied by the patient's attendant, it is of signal service.

In the use of gelatines, of which zinc gelatine is the type, it is open to question whether an active medicament can penetrate to any extent—at least to influence the tissues of the subjacent derma. The zinc gelatine, as an artificial epidermis in healing conditions of the skin, is an admirable protective, and undoubtedly expedites cure. And it does so largely owing to the gelatine forming a non-irritative protective against friction of clothes. It is, in pharmaceutical language, an elegant preparation. But where the epidermis is defective, or even deficient in horny material, a gelatine, in spite of the zinc, often fails to cure, and in fact only irritates the exposed cutis and increases the pruritus. Chrysarobin traumaticin is a cleanly method of applying chrysarobin to patches of psoriasis, but as an application to a general eruption of psoriasis it is tedious in the extreme, and however less disagreeable it may be, it cannot replace the ointment, in spite of the disadvantages of its fatty basis.

Plasters, especially those made after Unna, are of signal value in localised skin diseases. The gutta-percha basis, owing to its interference with transpiration, permits the watery vapour of the skin to soften the epidermis. It thus facilitates the ingress of the medicament to the underlying derma. A point that should not be overlooked in applying this form of treatment is the marginal effect of a plaster. The tension between the area of skin that is covered and the uncovered skin immediately adjoining the border of the plaster is considerable. The horny layer of the epidermis frequently fissures, and in consequence the terminal nerve fibrils are exposed, causing a great deal of itching, inducing the patient to scratch. Such tension can be relieved by the use of dusting powder, which fills up the crevices in the epidermis. This fact accounts for the irritation and the subsequent spreading of an eruption when such a plaster as zinc oxide plaster has been used for healing or protective purposes.—*Liverpool Medico-Chirurgical Journal, February*, 1900.

117.—PHARMACEUTICAL NOTES.

By HERBERT SKINNER.

[From Mr. Skinner's paper :]

The following is a very useful modification of the well-known "Liquor Picis cum Plumbo." ℞. Liquor picis carbonis P.B. ½ fl. oz., liquor plumbi. subacet. 80 ♏., glycerine ad 1 fl. oz. It is a small addition but a very useful one. It suspends the flocculent precipitate, and when diluted is more soothing and cooling in its application. When diluted to form a lotion, of course double the quantity should be used.

Dusting Powders with Boric Acid.—A conversation recently on dusting powders led me to try one of carbolic acid, and as it was required to be free from the old clogging Fuller's earth, the following was devised :—℞. Phenol. granul. 56 grs., ac. boric. pulv. subtil. to 1 oz. The skin was found to absorb it readily, and in one case was rather irritating, so that a reduction in the amount of phenol was made. Boric acid is a slowly soluble base, and should never be used unless passed through a No. 60 sieve. There can be very little doubt that when a close application of anything that will admit of being mixed in this way, there is nothing equal to a good dusting powder, and boric acid, together with the other ingredient, be it chinosol, izal, lysol or sanitas oil, is slowly but continuously absorbed. The effect does not last so long as an insoluble base, and the medicament may be weaker. If a liquid is added the acid must be dried and passed through a No. 60 sieve, as in the case of the well-known creolin dusting powder.

Carbonate of Zinc.—One of the most common things the dermatologist uses is oxide of zinc, rarely if ever does he order the pure carbonate of zinc as distinct from calamine. It is to be regretted that the pure carbonate is not always used, as commercial calamine is often a far from desirable application to an inflamed epidermis. The oxide or carbonate used in the form of the so-called creams is one of the best ways of applying it :—℞. Glycerin amyli., adeps. lanæ. hydros., zinci carbonas, glycerin, of each ½ oz. They are easily mixed, the first two together, then the second two, finally both together. The zinc may be increased to 50 per cent., or decreased, as the physician thinks necessary. A solidified "Lotio calaminæ" may be made on the same principle and might prove more acceptable :—R. Glycerin amyli to 1 oz., zinci oxidi 1 drm., calamin 1½ drm., glycerin 1 drm., liquor calcis 2 fl. drs.

Gelatine Applications.—I have been making many experiments to ascertain how far gelatine or agar agar can be used as an aqueous varnish, as hitherto the results are anything but satisfactory. The test for gelatine given in "Squire's Companion" is that five grains dissolved in water, to produce 250 grains just produces a solid mass. This can be preserved with thymol and applied to the skin; it then forms a very thin film, but it dries quickly, and it may then be felt on the skin. Agar agar is not suitable at all, a small quantity of acid liquefies it, but then it is worse than useless for the purpose. Gelatine, on the other hand, is more tractable, but any formula given will depend on the gelatine used. No two samples seem alike, whilst half an hour's heating will make two samples from the same lot behave differently. In trying to solve the difficulty I had recourse to the solvent action of acids, chloral, and sodium salicylate. In the first, half an ounce of gelatine in two ounces of water required three and a half fluid drams of lactic acid to keep it in a pasty condition. The second, using the same quantity of gelatine and water, required 160 grains of chloral. This produced a beautiful thick film, comparable to collodion and dried in two or three minutes. Sodium salicylate had much the same effect as chloral, using the same quantity. Going to the other extreme, I found that a 1 per cent. of chloral kept in a pasty condition a 5 per cent., and 1 of sodium salicylate a 6 per cent. solution of gelatine. All these solvents are somewhat objectionable, but where they are not the physician may find them very useful. In each case they formed a film varying in thickness according to their strength, but very durable and satisfactory in every way.

Whilst dealing with gelatine I found an aqueous ointment base could be very easily made with oleic acid partly saponified :—℞. Glyco gelatin 1 oz., ac. oleic 10 fl. drms., liquor ammonia 15 ♏., aqua dest. 2 fl. ozs. It mixed well with aqueous preparations or oily ones.

In conclusion, I give two formulæ, one a modification of the pharmacopœia, and the other a simple application of camphor, which is a very satisfactory way of applying it :—℞. Picis liq. 5 ozs., paraf. dur. 2 ozs. The paraffin is melted, then the tar stirred in, the stirring being continued until cold. ℞. Spirit camphoræ 2 fl. drs., tinct. benzoin simp. ½ fl. drm., glycerin ½ fl. oz., aqua dest. to 1 fl. oz.—*British Journal of Dermatology, May*, 1900.

118.—THERAPEUTIC EFFECTS OF THE ROENTGEN RAYS.

By J. Hall-Edwards, L.R.C.P.,

Surgical Radiographer to the General Hospital, Birmingham.

[From Mr. Hall-Edwards' paper :]

In the following cases exposure to the x-rays has been resorted to for the purpose of ascertaining their therapeutic value in the treatment of lupus :—

Case 1.—Lupus vulgaris in a boy, aged 14 years. The lower part of the face was entirely covered by the disease, and there was a large patch in the centre of the forehead. The nose was in great part destroyed by the disease, aided by continual scraping. There were several small patches on various parts of the body, particularly upon the legs and feet. For my experiment I chose a patch about the size of a five-shilling piece, situated upon the instep of the left foot. At the time the patch was in a quiescent state, and showed no signs of active inflammation. On May 7, 1898, the patch was exposed for fifteen minutes, at a distance of two inches, from a highly charged Crookes' tube (with platinum anticathode), a 12-inch spark and mercury interrupter being used. The unaffected portion of the foot was protected from the action of the radiations by a piece of sheet-lead, about ⅛ inch in thickness, through the centre of which a hole was cut, slightly smaller than the lupoid patch. During the exposure the only effect experienced by the patient was a slight sensation of warmth, which was of course due to the heating of the tube. On May 10 a fifteen-minutes exposure was given at a distance of 1 in. from the tube. The hole in the protecting lead was considerably enlarged. On May 10 and 14 the patch appeared slightly more red, but was otherwise unaltered. A fifteen-minutes exposure was given, at a distance of an inch from the tube, the protecting lead being dispensed with on the last occasion. On May 23 ten-minutes exposure was given, at a distance of 1 in. from the tube, no protecting medium being used. On May 26 the entire patch was broken down, together with the skin extending for at least half an inch all round it, leaving a larger ulcerating surface, of irregular shape, with ragged edges, nearly as large as the palm of the hand. On May 28 the ulcerated surface was covered with healthy granulation tissue, and new skin was invading its edges. On June 17 a raw healthy granulating surface, 3 in. in length and 1½ to 2 in. in width, occupied the anterior surface of the foot. The edges of the wound were being rapidly encroached upon by new skin. The surrounding skin has now assumed its normal aspect, and the small patches at the roots of the toes have quite healed. The boy was in excellent health, and felt no ill effects from the treatment. With prolonged and careful treatment of more than twelve months' duration the ulcer on the foot entirely healed, leaving a red scar, very unlike in appearance the scar which results from the accepted methods of treatment. I am informed that this scar has shown no tendency to again break down, although the case has not otherwise improved.

Case 2.—Lupus erythematosus in a girl, aged 15 years. The face, with the exception of the chin and temples, was covered with the disease, forming a well-marked "butterfly." The scalp was not invaded. There was a patch about 2 in. in diameter upon the anterior surface of the right arm. This patch was chosen for treatment. In this case a new method was adopted for protecting the healthy skin round the diseased patch. A solution of gelatine in water was prepared, and into this whilst warm was stirred finely powdered iodoform, until, upon cooling, the solution would just set. This preparation was melted and applied freely (with a brush) upon the skin all round the patch, every part which was likely to be reached by the radiations being well covered. The patch was now exposed to a highly charged Crookes' tube for a period of fifteen minutes, at a distance of 1 in. from the surface of the glass. After the exposure the arm was wrapped in cotton-wool and a bandage applied, the protecting iodoform being left undisturbed. On the following day the patch was slightly more red; it was again exposed under the Crookes' tube as before. The next day the iodoform protecting medium was peeled off, cotton-wool and a bandage applied, and the patient allowed to leave hospital. On July 25 (nine days after the first exposure) there was slight inflammation, and the patient complained of pain and soreness when the arm was moved or touched. During the next two days the inflammation subsided and the pain disappeared, but on the morning of the 28th the greater portion of the patch had sloughed away, leaving a raw superficial surface, which appeared to be entirely limited to the diseased skin. On August 2 the raw surface had slightly increased in size, and several small spots were seen upon the surrounding skin. The face rapidly getting better. A week later the surface was covered with healthy granulations, and new skin was growing from the edges. The face was now nearly well. On August 18 the wound was rapidly healing, and all signs of disease had disappeared from the face. At this stage the mistake was made of allowing the patient to apply her own dressing, with the effect that when she presented herself at the hospital a week later the wound had assumed an unhealthy and diphtheritic condition, which took two months to get rid of. About the middle of December the wound was completely healed, and the patient well.

Case 3.—Lupus vulgaris in a girl, aged 16 years. The lupoid patch covers only the front of the limb, and extends from 4 in. below the knee to the junction of upper and middle thirds of the thigh ; the back of the limb is unaffected. Twelve months since, a patch over the knee, about 2 in. in diameter, was exposed on two occasions, at a distance of 1 in., from a highly charged Crookes' tube, for a period of fifteen minutes, the remainder of the patch and the surrounding skin being protected by the iodoform emulsion used in the previous case. No result was noticed until eighteen days after the exposure, when the patch sloughed away, leaving an open ulcer. There has been considerable difficulty in getting this ulcer to heal, in great part due to the unsatisfactory state of health of the patient, aided by the fact that she has continued to use the limb during the whole period of treatment. At the present time there is still an unhealed healthy ulcer, about the size of a shilling, immediately over the patella. The healed portion of the patch is red, and very unlike in appearance the usual scar tissue. The lupus has entirely disappeared, and nothing but healthy scar tissue remains to show its existence. *Note.*—Since the above was written, treatment has been continued, and at the present time (January 1, 1900) the wound is completely healed. Time alone will tell whether or no a complete cure has been achieved. Up to the present, however, the scar shows no tendency to break down, while the patient's general health has much improved.

In treating these cases a special tube, 18 in. in length (so as to avoid sparking over), was used.

In summing up, it must be borne in mind that in Case 1 the treatment was purely experimental, and was undertaken in complete ignorance of the results which were likely to follow. Far too many exposures were resorted to, and I now feel certain that better results would have been brought about had one or, at the most, two exposures been given. Having gained the knowledge that a period of from fourteen to twenty-one days elapses between exposure to the Crookes' tube and the first appearance of symptoms, I dealt with the other cases more cautiously, with better results ; and I am now of opinion that the same results might follow a series of exposures made at such a distance from the tube that no inflammation would be brought about. That the results are to an extent satisfactory is encouraging ; and a more complete knowledge of the length of exposure necessary, and of the best after-treatment to adopt, may lead to a completely successful issue. The curious fact about the treatment is the period of inactivity which follows exposure. I am inclined to think that the effects produced are entirely electrical in their origin, and are due to the electrostatic action or electrolytic discharges produced in the skin by the near passage of a current of high potential. I would like it to be understood that I make these observations tentatively, with a full knowledge that sooner or later I may have to withdraw them.—*Edinburgh Medical Journal*, *February*, 1900.

119.—SOME WINTER AND SUMMER RECURRING ERUPTIONS.

By H. Radcliffe Crocker, M.D., F.R.C.P.,
London.

The etiological factors of diseases of the skin, with the exception of parasites and a few drug eruptions, produce such varying results that it is quite the exception for one to be able to assign a definite cause for any particular eruption presented to our notice. This is equally the case in winter and summer eruptions, the uniting thread being the mode of development and general behaviour, rather than in the morphological characters.

Recurring Winter Eruptions usually appearing.—There are many persistent eruptions like lupus of both forms, ichthyosis and eczema which are aggravated by the cold of winter. There are others which, owing to personal idiosyncrasy, recrudesce or are aggravated in the winter, while in other cases of the same disease warm weather is an exciting factor, such as some cases of psoriasis, erythema iris and prurigo. There are only a few, which are altogether in abeyance in the warm weather and reappear when the cold season sets in. The winter diseases *par excellence* are chilblains, Raynaud's disease, pruritus hiemalis, and the disease Corlett has called dermatitis hiemalis. The following three cases represent a type of disease of which I do not remember seeing any previous account. These cases, occurring in patients aged respectively 25, 35, and 21 years, have in common the facts that the lesions are all excited and kept up by cold, that they affect the hands only, especially about the knuckles, that they are indolent, indurated papulo-pustules, isolated, and few in number at a time; but the disease as a whole persists by a succession of lesions throughout the winter and early spring, and that treatment directed to the improvement of the circulation in the extremities is the most successful in preventing fresh eruption. If a name be required, "Acrodermatitis pustulosa hiemalis" would represent the most prominent features of this rare affection. It is possible that it may be a variety of another rare disease, which it resembles in some points, viz., folliclis, which Barthélémy has described and considers to be a different disease from acnitis, to which most dermatologists attach it. The resemblances are in the character of the individual lesions, in a slight tendency to group, and in leaving punched-out pigmented scars. In one case there was strong evidence of tuberculosis, which has been present in several cases of folliclis, while Barthélémy says it is not a factor in acnitis. The differences are their limitation to the fingers, their being connected with a feeble circulation, and being excited by cold weather. This is not mentioned in any case of either acnitis or folliclis, indeed, in one of the latter it is said to have been worse in hot weather. In acnitis the lesions attack the face in large and affect the limbs in small numbers; in folliclis the lesions are also in large numbers, chiefly on the limbs, especially at the joints, and while they attack the hands, the palms and backs are largely affected, as well as the fingers. Still, having regard to the close similarity of the individual lesions of my cases and of those of folliclis, it is not improbable that they are only a winter variety of folliclis, while it bears no resemblance to most cases reported as acnitis.

I have notes of other cases of recurring winter eruptions in which the lesions do not correspond with the preceding namely :—(1) Recurrent pustular eruption of the hands; (2) recurrent erythema; (3) recurrent acneiform eruption, and (4) diffuse erythematous and papular eruption.

Recurring Summer Eruptions. — The number of cases of eruption which are excited by the heat, and still more by the direct rays of the sun, in the summer is considerable. As examples of eruptions recrudescing in the summer, urticaria papulosa and most cases of prurigo may be mentioned, but summer pruritus is a rare affection. All cases of prickly heat and most cases of pompholyx are summer diseases. The direct rays of the sun act as an irritant on most skins if the exposure is long enough, and it is small wonder if shorter exposures aggravate such diseases as acne rosacea, lupus erythematosus, and most inflammatory diseases of parts exposed to the sun's influence, such as the face and hands. The class of cases I now propose to discuss are more essentially summer eruptions which subside altogether or for the most part in cold weather, and come out again in hot weather. These are hydroa æstivale, of which Bazin's H. vacciniforme is a variety, and the recurrent summer eruptions first differentiated by Hutchinson, of which there are several varieties.

[The author then gives details of 14 cases of vesiculo-pustular, vesicular, and erythematous eruptions.]

In reviewing all these cases there can be little doubt that several belong to the same class, the difference in their morphology, viz., being vesicular, vesiculo-pustular and papulo-erythematous, being outweighed by their all being liable to commence at any time from infancy to puberty, or even a little later, while they tend to get well between twenty and thirty. The relationship of the two adult cases to the childhood cases is not improbably a very close one, but it is better to consider them apart until transitional cases are discovered.

On comparing the winter and summer eruptions we find that some of them have much in common except the difference in exciting cause, and this is minimised by the fact that many summer eruptions are also excited by the cold of winter, and some winter eruptions are excited also by the sun's rays.

Two cases of the winter eruptions find very close analogies in the pustular and erythematous summer eruptions respectively. In both groups are odd unclassifiable cases, but the three cases of acrodermatitis pustulosa hiemalis appear to be a separable clinical group. All the rest are of angioneurotic origin, the variation in morphology being chiefly the result of the personal equation. Further, a considerable proportion both of the summer and winter groups appear to own a congenital predisposition of vulnerability.—*British Journal of Dermatology, February*, 1900.

120.—PEMPHIGUS IN EARLY LIFE.

By CHARLES W. ALLEN, M.D.,
New York.

[From Dr. Allen's paper :]

The various affections which have been described under this general term have included septic bullous processes, impetigo contagiosa bullosa, erythema bullosum, epidermolysis bullosa hereditaria, traumatic bullous dermatitis, and possibly at times the effects of drugs as well as bullæ due to other causes. Infants and children are more prone to water-blister formation than adults, though vesicular and bullous eruptions decrease in frequency after the first year of life. While less confusion exists to-day than formerly, the whole subject is still surrounded with difficulties. The pemphigus group has become disintegrated and is now passing through a process of reconstruction. The term should be reserved for grave systemic disease with well-marked bullous features.

Pemphigus Acutus (*Febrilis*).—Acute febrile pemphigus is very rare, either in the adult or infant, though more frequent in the latter, confusion arising from impetigo, erythema bullosum or other bullous affections. The epidemic form in institutions and in the practice of certain midwives to which I will presently refer is probably impetigo contagiosa or some still ill-understood infectious process.

Pemphigus Neonatorum.—Of the many forms of bullous disease which have been called pemphigus, that usually designated as pemphigus neonatorum interests us chiefly in this connection. It is characterised by an eruption of rounded or hemispheric bullæ seated on a very slightly reddened base, or springing from the normal coloured skin, occurring not earlier than the second week as a rule. The fluid within the bullæ is a clear or yellowish serum becoming opaline or cloudy, and sometimes hemorrhagic, though rarely pustular. The soles and palms are not involved, and the number of separate lesions is usually limited, but of general distribution. In young infants it is usually apyretic and ends in resolution after a seven to nine days' course. This form is rarely seen. The general health is not greatly disturbed. The first lesions may occur on the face or chest. They vary in size from that of a pin's head to a silver dollar. The statistics of the American Dermatological Association for twenty years show its rarity, giving but eleven cases out of 309,000 skin affections reported. We must, however, remember that dermatologists are not so likely to see these cases as the family physician and specialists in children's diseases. Septic forms undoubtedly exist, especially in the offspring of mothers who are septic, probably by way of the milk. Peter describes a bullous eruption in a nursing infant 11 days old, whose blood as well as his mother's milk showed cultures of the staphylococcus pyogenes aureus, a diplococcus, and in separate colonies staphylococcus pyogenes albus. Pemphigus of the new-born is distinguished from syphilis by freedom of palms and soles, and little tendency to suppuration, to confluence of pustules or to the production of ulcerative lesions (ecthyma), and by the absence of history and other signs of syphilis. The general health is fairly good, and no marked evidence of cachexia is present. It is also to be distinguished from the hereditary predisposition to bullous formation from sight injury—epidermolysis—and from the effects of too hot bathing, hot-water bottles, &c.

Pemphigus Chronicus.—In this form older children are affected. The bullæ have a more symmetric distribution, the onset is more insidious, and the course is, as the name indicates, a chronic one, there being a tendency to recurrences or to successive crops of similar nature, or to pass into the form of pemphigus foliaceus, and its ending is lethal.

Pemphigus Epidemicus.—While the writer for a number of years believed that most so-called pemphigus of the new-born, occurring in epidemics or lying-in institutions, or in the practice of certain midwives, was not pemphigus at all, but the bullous form of contagious impetigo, he is prepared to admit that septic forms may occur which are transmissible and often end fatally. Otherwise it is difficult to account for the great mortality, since, in older children at least, impetigo contagiosa is not a fatal disease. There are probably two forms of bullous affection which might be designated as epidemic. That in which the mother, the nurse, and the physician run a risk of affection, and which occurs among older children in institutions, will usually be found to be impetigo. In instances like that related by Dohrn, an infection of different nature would have to be suspected.

Pemphigus Foliaceus.—This form may succeed the form of pemphigus vulgaris, or it may attack an infant in a state of apparent health. The bullæ, instead of being distended hemispheres, are rather flaccid lesions giving rise to those which resemble a burn whose bullæ have ruptured, causing denuded areas covered or encircled with shreds of epidermis. The diagnosis rests between this affection and burns on the one hand, and pemphigoid syphilis on the other. I have more than once had presented to me in institutions infants in much the same condition as above described, with the suggestion that the nurse has been culpable in administering too hot a bath or has applied hot-water bags injudiciously. Knowing as well as I do the dangers of the hot-water bag, I believe one must bear these cases in mind and be on one's guard not to do unintentional harm to the innocent by a too speedy judgment.—*Journal of the American Medical Association*, *April* 7, 1900.

121.—ON THE DIAGNOSIS FROM SYPHILIS OF CERTAIN NON-SPECIFIC SKIN AFFECTIONS.

By WILLIAM J. MUNRO, B.A., M.D. Edin.,
Sydney.

[From Dr. Munro's paper :]

With regard to the earlier secondary manifestations of syphilis, undoubtedly the disease that is most likely to lead to confusion is pityriasis maculata. This affection was first described by Gibert, and hence it is known to French dermatologists as pityriasis rosé Gibert. Until recent years it had not attracted the notice of British dermatologists. The eruption of pityriasis maculata is generally preceded by the appearance of what has been termed by Brocq "the primitive lesion." This consists of a local circumscribed erythematous spot, attaining often nearly the size of a shilling before it is noticed. It is moderately itchy, and especially when the patient is heated or perspires. The general eruption appears from about 10 to 16 days after the primitive lesion. This may consist of only a few spots, or they may be very numerous and widely diffused, involving sometimes the whole body, though in the majority of cases it is limited to the trunk. The situations of election are just below and above the clavicles. It is uncommon on the arms and thighs, and hardly ever occurs below the elbows, on the face, hairy scalp, or feet. The individual muscles are of a dull, rose-pink colour, becoming brighter at the margins, and partly disappearing on pressure. They are small at first, but enlarge rapidly at their periphery, and during the course of the disease the centre usually fades, the margins still remaining bright. The spot subsequently becomes covered with light brownish, yellow, or dirty whitish bran-like scales. The centre may completely recover, leaving the margin still red and scaley. The normal shape of the individual elements is round or oval; but, owing to their coalescence, they may assume the form of a figure of eight, &c. A certain amount of discoloration of the skin remains for some time after the eruption has gone.

When one contrasts the disease with the syphilide for which it is most liable to be mistaken, viz., roseola, we find that the latter is not only liable to affect the skin of the trunk, but is prone to attack the upper part of the forehead, the scalp, the back of the hands, palms, wrists, forearms, feet, legs and thighs; but its elective situation is the skin over the abdomen and lower part of the chest, contrasting with that of pityriasis rosé, which is, as we have mentioned above, the supra- and infra-clavicular regions. The individual syphilitic elements are more projecting, and of a deeper red colour; in fact, sometimes they are quite of a livid tint. They are very slightly, if at all, squamous, and in any case the squames only fall when scratched off. Though marked glandular induration occurs with the syphilide, one must be cautious in taking this into consideration, for glandular enlargement also appears in some cases of pityriasis rosé; but, however, when one examines the individual glands, it is found that they do not give the impression of shot-like hardness noticed in connection with the former disease. In roseola it is unusual to find the elements of the eruption uniform, but upon searching carefully a papule, or mucous patch, may be found in some unexpected situation, and in all cases of doubt it is advisable to examine each part of the patient's body in detail if the subject is a female, or completely stripped if a male.

Other corroborating evidence, such as some throat affection, the scar of a recently healed chancre, or falling hair must be looked for carefully if syphilis is suspected. Though malaise and fever may be associated with both diseases and noticed before any skin manifestation is visible, yet with syphilis these general symptoms are accompanied by muscular and other pains simulating rheumatism, and often appearing to proceed from the very bones themselves. There is no itching with the syphilide, but though commonly slight there is almost always some noticed in the case of pityriasis rosé. The latter disease will disappear in from 17 to 56 days without any treatment, while within a short period after its commencement the former is almost sure to be followed by some confirmatory lesion.—*Australasian Medical Gazette*, *February* 20, 1900.

122.—MANAGEMENT OF THE HAIR DURING AND AFTER FEVERS.

By GEORGE THOMAS JACKSON, M.D.,
Instructor in Dermatology, Medical Department of Columbia University.

[From Dr. Jackson's paper :]

It is well known to both physicians and the laity that after fevers and parturition, as well as after some non-febrile but exhausting diseases, the hair is prone to fall out. The reason it does so is that during the illness the nutrition of the hair is interfered with, the hair receiving its blood supply from a deep plexus of vessels, and its nutrition sympathising actively with the state of the general nutrition of the body. During the illness we shall be asked if we can not do something to prevent the falling out of the hair. Unfortunately, we can do nothing except try to keep the scalp in good condition. If the patient is very ill, we are unable to do anything active, but the attempt must be made to brush, or at least comb, the hair daily. If the patient is a man, that will be comparatively an easy task ; if a woman, our task is much harder. If the patient is not so ill as to preclude it, in addition to the daily combing of the hair a little oil or vaseline should be rubbed into the scalp once or twice a week.

As a rule, the hair does not begin to fall until some six weeks or more from the beginning of the illness. If the patient recovers with her hair in a snarl, should she be a girl under fifteen, the easiest course to pursue is to have it cut off as short as necessary to rid the mass of all the entangled hair. If the patient is more than fifteen years old, or even if she is younger and can command skilled care, the snarled hair must be disentangled by quiet and persevering effort. There is probably no snarl that will not yield to patient and persevering combing and manipulation.

It is during convalescence that the patient's friends, and perhaps the patient herself, are urgent for permission to have the scalp shaved and cross shaved. They will cite cases where this has been done and magnificent heads of hair have resulted, even straight hair coming in curly. It is useless to deny that such things do happen, but they are not consequent upon the shaving. I have seen more than one woman whose hair has come in curly, although lost after a fever, and without shaving. We should advise against shaving, explaining to the persons interested that it means a good deal of discomfort from wearing a wig, especially while the hair is growing, and a good deal of useless embarrassment on account of having to go about for months with short hair, to say nothing of the cost of the wig—a no small item. We should tell the patients that there is no way of foretelling how much hair will fall out, and that it is usually not enough to prevent "doing up of the hair" so as to present a respectable appearance; and that if they will follow out directions they will have just as fine a head of hair as if they had shaved, and be saved all the by no means trivial annoyances that follow upon shaving.

We should direct that the hair be brushed and combed daily, telling them that they need not be worried because this will pull out a good deal of their hair, as it is only the diseased hair that can be so pulled out, and the sooner it is out the better. Once or twice a week a little pomade containing a drachm of precipitated sulphur to the ounce of a good cold cream should be well worked into the scalp. Or we may use daily a three-per-cent. lotion of resorcin in oil and alcohol. Personally I prefer the pomade. Many prefer a liquid preparation. Once in two or three weeks the hair and scalp are to be washed. Of course, this will pull out a lot of the damaged hair, which is a matter of no consequence. For the shampoo, we may use any good soap, though the most convenient kind is a liquid one, such as the tincture of green soap. If the latter is used, we should direct the patient to invert the bottle on a piece of flannel, dip the flannel in warm water, and use just as little soap as will make a good lather. So used, the soap will not convert the hair into a mass of strings. If too much soap is used, it will be difficult to wash it out. The soap should be washed out, and the best way to do this is to have the patient place her head under the full stream of the bath-room faucet, or a hose attached to the same. After washing, the hair is to be carefully dried, and a little of the pomade rubbed into the scalp to take the place of the natural oil removed in the washing.—*New York Medical Journal, May* 5, 1900.

Obstetrics and Gynæcology.

123.—AFFECTIONS OF THE KIDNEY IN RELATION TO PREGNANCY.

By J. CLARENCE WEBSTER, M.D. Edin., F.R.C.P. E.,
Professor of Obstetrics and Gynæcology in Rush Medical College, Chicago.

[From Dr. Webster's paper :]

That the kidney becomes somewhat hypertrophied as a result of pregnancy all are agreed, though the nature of the enlargement and range of variations are not at all definitely known. The quantity of urine is increased, and it is of a lower specific gravity. Sugar is found in a considerable number of cases of pregnancy, and more frequently after delivery, but this is only milk-sugar absorbed from the breasts, not true glucose. The latter is no more frequent in pregnancy than in the non-pregnant state. Peptones are occasionally found in pregnancy; by many being thought to indicate death of the fœtus, though there is no proof whatever of this. They are very frequent after the first three or four days of the puerperium, when they are derived from the involuting uterus. With regard to occurrence of albumin in the urine and its significance, there is an amazing difference of opinion. Its frequency has been variously estimated by different workers.

The following statistics are given by different German authorities : Meyer, in 76 parturient women, found albumin in 40.78 per cent. ; Litzmann, in 100 parturient women, found albumin in 43.7 per cent. ; Löhlein, also in 100 parturient women, found albumin in 37 per cent. ; Flaischen, in 537 parturient women, found albumin in 16.9 per cent. ; and Winckel, in 367 parturient women, found albumin in 19.4 per cent. These percentages are noticeably higher than those given by leading French obstetricians. Thus, Pinard states that out of 1,249 parturient women in the Baudelocque Clinic in 1890 only 73 cases of albuminuria (6 per cent.) occurred : of these slightly less than 3 per cent. were associated with pregnancy, the rest with labour. So far as may be gathered from more recent observations, it may be stated that serum-albuminuria occurs in about 2 per cent. of all pregnant women who are healthy at the beginning of pregnancy. The process of labour causes albuminuria in a still larger percentage of cases. Aufrecht found it was produced in 18 out of 32 women examined; Ingersley, in 50 out of 153 cases of labour. It is most frequent in women during the first pregnancy, especially in those who are no longer young or in those who are very young. Of all cases it is believed to be most associated with the presence of more than one fœtus *in utero*. It occurs mainly in advanced pregnancy, only rarely in the early months.

What is the significance and explanation of this albuminuria of pregnancy? Is it, as some hold, a physiologic process of no importance, or is it to be regarded, as many authorities consider it, as the result of pathologic changes induced in the cortical portions of the kidneys? In favour of the former view may be adduced the cases of healthy men and non-pregnant women in whom a temporary albuminuria may be caused by various factors, *e.g.*, changes in temperature, food, exercise, &c. The investigations of the late Grainger Stewart undoubtedly appear to justify the view that there may be an albuminuria which is to be regarded as a physiologic peculiarity and not the indication of a pathologic process. *A priori*, then, it must be conceded that a like explanation may suffice for some cases of the albuminuria in pregnancy.

[The author then discusses the theories which would attribute the albuminuria to actual lesions in the kidney, to compression of the ureters, or to a toxæmia. He thus proceeds:]

Finally, after reviewing the most important theories advanced by those who have worked in this difficult sphere, it must be admitted that much is to be said in favour of each. Indeed, it is highly probable that something of the truth is contained in all of them, that in most cases no single factor is causal, but rather a combination of various factors, these varying greatly in different instances. The most important of these is undoubtedly the toxic element. Only from such a standpoint is it possible to group into an intelligible synthesis the heterogenous clinical phenomena and physical changes found in the abnormal condition of pregnancy under consideration.

Nephritis.—Where true nephritis exists before or begins in pregnancy, the disease, as a rule, is a more serious matter than in the non-pregnant state and the prognosis is unfavourable. In the case of chronic nephritis, an acute exacerbation is usually induced. The patient may die from kidney failure, and uræmia is very apt to occur. Only in a small percentage of cases are the phenomena of eclampsia noted, as has been pointed out by Fehling and Leyfert. As regards the influence on the course of pregnancy, the tendency to premature emptying of the uterus is to be particularly noted. According to P. Müller, it occurs in more than 40 per cent. of cases. It is attributed to various causes, viz., hemorrhages into the placenta, causing infarcts and destruction of portions of the chorionic villi, or separation of the placenta. The fœtus may die as a result of the accumulation of toxic material in the system, and this is an important cause of the premature expulsion. The fœtal mortality is very high. Hofmeier noted that the fœtus died in twenty out of twenty-three cases of nephritis. Braun has estimated the mortality at 80 per cent.

Treatment.—The treatment of a pregnant woman with symptoms pointing to disturbed renal functions is to be carried out on the lines followed in the non-pregnant state. The strictest watchfulness on the part of the physician is necessary. With regard to the question of allowing the pregnancy to continue, it is difficult to decide. There are, however, certain indications which point imperatively to the induction of premature delivery, in the interests of the mother, viz., visual disturbances, and continued headache, pulmonary or other marked œdema, marked cardiac disturbance, frequent nose-bleedings, continued increase in the casts and albumin in the urine, uræmia. In a number of cases the woman may respond to treatment so satisfactorily as to go to full term and be delivered of a healthy child.—*Journal of the American Medical Association, April* 21, 1900.

124.—PREGNANCY AND THE PUERPERIUM.

By J. CHALMERS CAMERON, M.D.,
Obstetrician to the Montreal Maternity.

[From Professor Cameron's paper :]

The signs of gonorrhœa in pregnancy are so few and the bladder troubles and vaginal discharges differ so little from the similar conditions common in pregnancy that the ordinary primipara, young and inexperienced, is apt to overlook them altogether or regard them as troubles resulting from the pregnant state. A satisfactory diagnosis cannot be made in pregnancy from the clinical symptoms alone ; where there is the slightest suspicion, the husband should be questioned as to the existence of a previous gonorrhœa, and then a careful search should be made for gonococci, not only in the vaginal discharges but also in the cervical mucus. Very many pregnant women infected with gonorrhœa go through a favourable, uneventful puerperium, while others have the pains and anxieties of a severe fever, with numerous subsequent ill effects. An ascending gonorrhœa during the puerperium is a complication which is underestimated both as to its frequency and its significance.

The first sign of beginning gonorrhœa in the puerperium appears generally on the third day, with a moderate rise of temperature and pulse. The patient feels pretty well, complaining only of pain on one side; there is usually tenderness on pressure over the adnexa or over the junction of the tube and the uterus on that side. These local conditions may continue practically unchanged for several days. The lochia become more offensive than usual, though no actual fœtor may exist. The quantity is increased without a preponderance of either bloody or purulent constituents. Specially noticeable is the irritating acid reaction of the lochia, causing pain and smarting in vaginal or perineal wounds and even intertrigo. Eczema of the external genitals should cause one to search for gonococci in the cervix. Bladder disturbances should lead one to examine the urethra. In the further course of the puerperium, repeated obstinate hemorrhages may occur, even though placenta and membranes came away entire. The changes in the lochia and moderate fever (101.5° F.) may last for eight to fourteen days or even less, and may then disappear without the occurrence of subsequent trouble. In other cases in about eight to ten days, there is a chill, followed by a sudden rise of temperature (104° F.) and pulse, and the signs of severe puerperal infection (sharp abdominal pains, distension of the abdomen, sensitiveness of the uterus and adnexa to pressure, profuseness and acidity of the lochia). The diagnosis from acute septic infection is difficult at first; but in gonorrhœal infection the temperature falls to 100° or 101° in a day or two, and fluctuates only one or two degrees during the twenty-four hours; the great rises and falls of temperature so common in septicæmia are not observed in gonorrhœal infection. The pulse rate diminishes even more rapidly and remains usually with a maximum of 100. The lochia are never as fœtid as in septic cases. The tongue is moist and not coated; the patient soon regains her appetite; the abdomen becomes softer and bears pressure. The pains limit themselves to the uterus and adnexa; and by external examination a distinct swelling, generally bilateral, can be made out. These tumours are so large, and they go on so often to pus formation, that they can be differentiated usually from true parametritic exudation. It must be remembered, however, that puerperal pyosalpinx sacs develop easily in the loosened connective tissue of the broad ligament, thus giving rise to a false diagnosis of parametritis. There is often a mixed infection. Gonorrhœa plays an important part in the production of puerperal infection, either alone or in connection with other microbes. Krönig was able to cultivate gonococci in 50 out of 170 cases in which the puerperium was febrile. As the result of gonorrhœal infection, some women become absolutely sterile, and never bear a child; others bear one child, and thenceforth are sterile. This latter condition is called "one-child sterility" by some observers, and is held to be highly significant of gonorrhœal infection.

Prophylaxis and Treatment.—Particular attention is directed to the fact that gonorrhœal affections of the uterus, adnexa, and peritoneum, occurring after labour and particularly after abortion, in cases where operative interference has been employed, give the worst prognosis and furnish the largest number of cases which go on to operation. The scope and value of prophylaxis can be estimated only when we accustom ourselves to think of the possibility of gonorrhœa in any pregnant woman. Abortion should be prevented, if possible, and operative measures avoided. During pregnancy a supervision of the habits and method of living, as well as judicious local treatment, will diminish the chances of abortion, and perhaps modify the intensity of the local disease. During abortion or labour an expectant attitude is best, until it becomes evident what the course of the disease is likely to be. Internal examinations should be avoided as much as possible; Credé's method of expelling the placenta and other violent manipulations of the uterus are apt to be harmful. In the puerperal period the first essential is perfect rest, and the patient should be kept in bed as long as possible. During pregnancy, if the vagina, urethra, or rectum only is attacked, the cervix being as yet unaffected, energetic treatment of these organs should be instituted and sexual intercourse forbidden. Treatment of the cervix itself is somewhat risky, and should only be done by means of ointments of ichthyol, protargol, or silver nitrate carried or injected gently into the cervical canal. In the puerperium, if there be signs of advancing infection, absolute rest is the best treatment. Ice-bags and opium will relieve pain and the symptoms of peritoneal irritation. Warm applications and dieting will help bladder troubles. All other methods of local treatment will do more harm than good. Vaginal irrigations are especially to be avoided, as they are so apt to bring on colic and contractions. The patient should be kept in bed for a long time and permitted to get up only when fever has gone and pain is felt only upon deep pressure over the organs—rarely before the fourth week, better usually in the seventh week. Then we can begin treatment looking towards absorption. Then will be the proper time, too, for large hot douches, for ichthyol and glycerine tampons. In no case should intra-uterine treatment be undertaken before the end of the puerperium.

In conclusion, let me again urge the importance of early diagnosis and energetic treatment in the gonorrhœa of pregnant women. Finally, we should remember, in treating such cases, that the infection has come from some latent gonorrhœal process in the husband. It will, therefore, be of little use to cure the wife unless at the same time we take care that she be not re-infected by the husband. Both should be under treatment, and a return to ordinary marital relations is not safe until both are free from all possible foci of infection. —*Montreal Medical Journal*, *March*, 1900.

125.—THE TREATMENT OF BROW PRESENTATION.

By JOHN EDGAR, M.A., B.Sc., M.B.,
Professor of Midwifery and Diseases of Women,
Anderson's College Medical School.

[From Dr. Edgar's paper :]

(1) *The case may be left to nature.*—As the proportion of spontaneous births with living children is small, and the maternal mortality high, I am decidedly of opinion that this expectant treatment is a mistake.

(2) *The postural method.*—When the head is still movable at the brim, it is recommended to make the woman lie on the side corresponding to the child's back in order to promote spontaneous conversion into a vertex presentation ; or, if the case be not seen till the head has engaged, to make her lie on her other side so as to establish, if possible, a face presentation.

(3) *Manual conversion into a cranial or a facial presentation.*—This may be done (*a*) by manipulation of the trunk, (*b*) by manipulation of the head, or (*c*) by the combined method.

(*a*) *Manipulation of the trunk.*—Schatz's method consists in anæsthetising the patient, and then, with one hand on the child's shoulder and the other on its breech, in pulling the shoulder upwards in the direction of the child's back and pushing the breech in the opposite direction. If this be successful the child's spinal curvature will be corrected, and the head will, he claims, become spontaneously flexed. This plan is possible, however, only when the head is freely movable, the membranes unruptured, and the lower uterine segment undilated. The presentation is rarely recognised at so early a stage.

(*b*) *Manipulation of the head.*—What is known as Bandelocque I. consists in pushing up the forehead, while at the same time the other hand externally presses down the occiput. In Bandelocque II. the whole hand introduced through the os grasps the occiput, and during pains endeavours to pull it down, so flexing the head. The fault of these methods is that no attention is paid to the lordotic curvature of the child's spine ; so that, unless the vertex presentation can be retained by becoming fixed in the pelvis either with or without forceps, the face or brow presentation will tend to recur. A brow presentation can sometimes be converted into a facial by hooking two fingers over the chin and pulling it down during pains. This is of special use when the head has entered the pelvis, and was successfully employed by myself, along with the use of forceps, in one of my two cases.

(*c*) *Manipulation of both head and body by Thorn's method.*—This is a combination of Bandelocque's manœuvre with that of Schatz. The patient is placed on the side corresponding to the child's abdomen and anæsthetised. With two fingers of the one hand the upper jaw, and then the forehead, is pushed up ; or, on the contrary, the occiput is pulled down, while at the same time the external hand pushes the child's breast backwards and upwards. Gravity tends to bring the breech forwards. A capable assistant can aid this manœuvre materially by pushing the breech ; or, if a sufficiently skilful assistant be available, he may flex the trunk by Schatz's method, while the head is manipulated by the Bandelocque I. method. I have no doubt that the treatment is valuable in many facial and brow presentations. I tried it in one of my two cases, but for reasons failed to flex the head.

(4) *Podalic version* is occasionally serviceable so long as the head is still movable and there is sufficient room in the uterine cavity to render it possible. It is specially advisable in mento-anterior cases, as conversion into a cranial presentation would in such cases produce an occipito-posterior position.

(5) *Forceps* may be used at a later stage, or in order to retain a vertex or face presentation after either of these has been obtained.

(6) *Symphyseotomy* has been advised by Vallois and others of late years. Personally I should not be ready to adopt it, as after a sufficient trial of the various manœuvres already mentioned the chances of a viable child being delivered would in my opinion be too small to warrant the risks of such an operation.

(7) *Cæsarean section*, for the same reason, is even more questionable.

(8) *Craniotomy* is the *dernier ressort* in all cases where other treatment has failed. If the child be already dead, I should

have no hesitation in having recourse to it in any stage unless birth otherwise promised to be easy and without risk.

Having thus considered the various modes of treatment, I shall now proceed to mention what in my opinion ought to be done—firstly, when the head is movable at the brim and unmoulded; secondly, when the head is engaged and is moulded; and thirdly, when the head has entered deeply into the pelvis. In the first case a trial might be made of the postural method; but I should prefer to adopt Schatz's, and, failing this, Thorn's method. Failing both of these, or if the cord be prolapsed, or perhaps also in mento-anterior positions, I should perform podalic version. In the second case I should place the patient on the side towards which the child's abdomen is directed, get her anæsthetised, and then try Thorn's, and also, if necessary, both Bandelocque's methods. Were these to fail, I should endeavour to pull down the chin. In the event of success following any of these modes of treatment, I should, if need be, rupture the membranes and fix the presentation by means of forceps. If they were to fail, however, version or the forceps might be cautiously tried. In otherwise intractable cases craniotomy would require to be performed, unless the mother and child's condition were sufficiently favourable to warrant waiting for further moulding and descent. In such a case I should take care to keep the woman on the side corresponding to the child's abdomen, to ensure, if possible, descent of the face. Thirdly, when the brow has descended to, or nearly to, the pelvic floor, Bandelocque II. should be tried; and, failing that, the chin ought to be brought downwards and forwards. The forceps will aid delivery. If, however, the child be dead or the mother's condition demand it, craniotomy ought to be resorted to, unless birth, with or without forceps, be possible without risk to the mother.—*Glasgow Medical Journal*, *March*, 1900.

126.—TREATMENT OF ACCIDENTAL HEMORRHAGE.

By J. KEOGH MURPHY, M.A., M.D. (Cantab.),
Late Extern. Assistant and Registrar, Rotunda Hospital.

It is impossible to lay down a regular line of treatment, but I would contend that from the very nature of the case rupture of the membranes should be inadmissible. As a matter of experience, in the cases I have seen where rupture of the membranes was performed, no uterine action set in for hours, and the hemorrhage continued unless controlled by vaginal tampons. Be it understood again that I refer to those cases where uterine pains are absent before the operation.

I would advocate the plan adopted for some six years past in the Rotunda in such cases. Firm plugging of the vagina, preceded by a hot vaginal douche, and accompanied by a very tight abdominal binder, the fundus being surrounded with compresses in such a way that a uniform pressure is established over it. If this be done, I consider that the risk of increasing internal hemorrhage is minimised. Meanwhile the patient is carefully watched, shock is combated by the usual measures, and saline solution injected, intravenously or by the rectum, as may be thought best. Be it well understood that vaginal plugging is adopted with a view to promoting uterine contraction and dilatation of the cervix in these formidable cases, not primarily to check all hemorrhage. My friend Dr. Tweedie has suggested that such plugs *do* check internal hemorrhage by compressing the lateral fornices, and raising them so much that the uterine arteries on either side are kinked. The enormous pelvic pressure of a tamponage properly applied with a tight napkin fixed to the binder can be readily imagined if the operation is seen. I have myself used over one pound of wool in a tamponage.

The tampons should be removed every twelve hours, and after careful douching the procedure repeated. In one of my cases this method was successfully performed for sixty hours before uterine pains commenced, and the patient was afterwards delivered by forceps. On the first day of treatment she was pulseless at the wrist, and I infused 2 pints of saline solution into a cephalic vein. I cannot doubt that in such cases rupture of the membranes would have proved shortly fatal. But what if the patient's condition became worse under the plugging, though stimulated with saline injections? Here we are in a desperate strait, but such cases, fortunately, must be extremely rare. We have to choose between *accouchement forcé*, after manual dilatation of the cervix, or, better, by marginal incisions, according to Duhrrsen's method, and the serious alternative of an abdominal operation—removal of the uterus by Porro's method, thus effectually checking all hemorrhage. In the opinion of Dr. Smyly, "the latter is the less hazardous proceeding." The danger is dreadful in either case, but the shock of *accouchement forcé* is likely, in his opinion, to be fatal. Neither alternative is likely to be necessary under any ordinary circumstances. But I may mention that the latter was bravely faced by Dr. Bagot, formerly of the Rotunda, in the external maternity, under most disadvantageous circumstances, and the result was successful. The very successful results of the line of treatment I have advocated, as compared with Galabin's statistics, must, I think, bear weight.

To summarise: (1) Accidental hemorrhage is not due to external injury, but to disease of the uterus, accompanied in a large majority of cases by kidney mischief. (2) It must be divided clinically into two classes: those where uterine contractions are absent, and those where they are present. (3) In the latter and milder form, rupture of the membranes and delivery *secundem artem* will suffice. (4) In the former, vaginal plugging, uterine binding and general stimulation should be employed until the cervix dilates sufficiently to allow of delivery. (5) If symptoms of internal hemorrhage continue under this treatment, the patient's desperate condition can probably be only best relieved by Porro's operation. (6) In serious cases of accidental hemorrhage, in the absence of positive signs, the child's life need probably never be considered.—*Treatment*, *December* 28, 1899.

127.—POSTPARTUM HEMORRHAGE.

By Edward P. Davis, M.D.

[Dr. Davis's paper appeared in the *Medical Record*, January 13, 1900.]

In the presence of postpartum hemorrhage occurring immediately after labour, the physician must quickly differentiate between a relaxed condition of the uterus and hemorrhage from a tear in the cervix, pelvic floor, or vaginal tissues. If the womb is well contracted, and the blood is bright in colour, coming constantly in a small stream, its source will be found in a torn vessel in the cervix, pelvic floor, or vaginal walls. An examination should be made immediately to determine the cause of the hemorrhage, and stitches should be taken to control it. In this connection, he calls attention to lacerations in the anterior vaginal wall near the urethra as a source of hemorrhage after labour.

If no tear of the cervix, pelvic floor, or vaginal tissues can be found, and the womb relaxes, it should be grasped by the hand and a vaginal douche of hot sterile water, two quarts at 110° F., administered. One-thirtieth grain sulphate of strychnine with 1/200th grain of atropine should be given hypodermically, when, in the majority of cases, the bleeding promptly stops. Should further relaxation occur, we should immediately tampon the uterus with aseptic or iodoform gauze.

Many cases of postpartum hemorrhage following relaxation of the womb occur after the physician has left his patient and when she is in charge of the nurse. Physicians should leave with obstetric nurses written orders stating what may be done in the event of hemorrhage before the physician arrives. If hemorrhage should occur before the physician can reach the patient, a competent obstetric nurse should be allowed to act as follows : First, she should remove the obstetric binder, massage the uterus until it contracts, and grasp it in the manner described ; secondly, still holding the uterus, with any aid available, she should give the patient a hot vaginal douche of two quarts of sterile water or bichloride solution 1:8000 at a temperature of 110° F. ; thirdly, she should cause the patient to swallow two teaspoonfuls of fluid extract of ergot. Upon the appearance of hemorrhage the nurse should send for the physician, but should remain grasping the uterus until the hemorrhage has entirely ceased, or until the physician arrives. Nurses should be cautioned not to fatigue the uterine muscle by useless manipulation, but, having brought it to contract by massage, to hold the womb steadily but gently in a contracted state. Postpartum hemorrhage is not very frequent when care is taken to prevent it, and in most cases nurses succeed in stopping it before the arrival of the physician.

Failure of the womb to remain properly contracted, persistent oozing hemorrhage in the absence of a laceration which accounts for the bleeding, must suggest to the physician that a portion of the placenta or membranes, or a large clot, remains within the uterus. Much stress was formerly laid on turning out the clot to cause postpartum hemorrhage to cease. If precautions are taken to avoid hemorrhage, a large clot seldom forms. In the presence of the symptoms described, however, it is the physician's duty to explore the interior of the womb and to be sure that it is empty and clean. This may be done with the finger, with the hot douche, or with the hot douche given with the blunt curette. Very often a thorough intra-uterine douche will bring away whatever is retained. In the giving of this douche, if the cervix is shut down tightly, it should be dilated gently with the finger. A glass douche tube is preferable, containing a groove along its posterior aspect, and made of especially chosen glass, which makes it possible to boil the tube thoroughly before using. Boiled water, decinormal salt solution, or lysol one per cent., is chosen for this purpose. Mercurial solutions are not employed within the uterine cavity unless the case is complicated by some septic condition. When the uterus is large the functions of the finger and tube may be combined by the use of the blunt curette. The surface of the interior of the womb should be thoroughly but gently gone over while the hot fluid runs freely through the curette. If oozing continues at the conclusion of the doucne, it is well to pack with gauze.

To interfere with the uterine cavity during and immediately after labour is an important procedure, but by boiling the instrument employed, by thoroughly cleansing the hands, by the plentiful use of hot dilute antiseptic fluid, and by selecting the gauze employed for the tampon carefully, the author has seen none but good results follow this procedure.

If the patient is kept externally clean by antiseptic solutions, and if sterile napkins are worn, the gauze packing may safely remain without disturbance from twenty-four to thirty-six hours. It should then be removed, and the uterus thoroughly, but very gently, douched with decinormal salt solution at a temperature of from 105° to 110° F. This procedure requires no anæsthetic, occasions but little manipulation, and is usually well borne by the patient. For such purposes the simple glass douche tube already described may be employed, and will be found to be satisfactory.—*From abstract in Therapeutic Gazette, May* 15, 1900.

128.—SOME POINTS IN GYNÆCOLOGICAL ASEPSIS.

By H. MACNAUGHTON JONES, M.D.,

Formerly Professor and Examiner in Obstetrics and Gynæcology, Queen's College, Cork, and Royal University of Ireland.

[From Dr. Macnaughton Jones' paper :]

I prefer, in the first place, to draw attention to a few blots in what is not uncommonly regarded as an antiseptic operation, and which are not infrequently ignored. I will, for the sake of brevity, enumerate them categorically :—(1) Defective sterilisation of the rectum and vagina for at least forty-eight hours prior to operating. In the instance of the rectum this is avoided by the use of saline aperients, a dose of calomel and lavage with 1 in 1,000 of permanganate of potash in sterilised water, or a sterilised solution of boric acid ; and of the vagina by thorough washing out with 1 in 1,000 of formalin solution, lysol, traumatol, or perchloride of mercury, followed by the insertion of a tampon of sterilised iodoform or chinosol gauze. (2) The want of thorough cleansing of the entire body of the patient by the use of a warm bath, in which the skin is well scrubbed with lysol soap. (3) Defective shaving of the entire hair of the external genitals after the final bath has been taken, this being followed by proper packing of the abdomen with an antiseptic pad, such as 1 in 1,000 of formalin. (4) Want of attention to the clothing of the patient when placed on the operating-table, as to its warmth and cleanliness, and omitting to see that the feet and legs are well enveloped in sterilised flannel bandages. (5) Inefficient sterilisation of the abdomen (especially of the umbilicus) or of the vagina—of the abdomen and umbilicus by a special washing when on the table with lysol soap and a brush, perchloride of mercury with alcohol, and finally ether; the vagina I shall refer to again. (6) Inefficient sterilisation of the hands and arms of the surgeon, assistants, or nurses; or, subsequent to their sterilisation, the touching or handling of non-sterilised articles. Nothing should touch the sterilised hands or arms of anyone engaged in an operation after the completion of their sterilisation. Though one who is experienced in the preparation of the hands may complete the sterilisation in a period of five minutes, much longer is required by the inexperienced assistant or nurse. No one engaged directly in any gynæcological examination should have a projecting finger-nail.

It is no uncommon thing to find a gynæcological trained nurse preparing for an operation or dressings with long sleeves and cuffs, handling promiscuously the clothes or coverings of a patient and dressings or appliances, with the crudest ideas of sterilisation and a happy but reckless disregard in the handling of antiseptic dressings; the mixing of non-sterilised with sterilised water, in the using of cans and taps; in washing with nail-brushes that have been employed previously and indiscriminately in private houses, homes, or in hospital; and with a startling indifference (in the post operative dressing of cases) to the preparation of their hands and the possibility of conveying infection from septic cases that they may have at the time been attending to. Worse still is their tendency to use the first towel or instrument that comes to hand, pleasantly oblivious as to its previous effective sterilisation. (7) Failure may be consequent upon imperfectly sterilised sponges, gauze compresses, or dabs; or, even if these have been made sterile, by their being brought in contact with any source of infection, either through the hand of a nurse or assistant, or by careless re-use when they have been infected. Ordinary sponges, save for exceptional purposes, are no longer used. The difficulty of keeping them sterilised, and the danger of trusting to nurses for their purity, have caused them to be generally abandoned. Gauze answers for almost every purpose, and soft white muslin squares or fine domett for protection of the bowel or for larger compresses. These and the sponges made of absorbent cotton-wool can be readily sterilised in the vapour steriliser or autoclave of Chamberland. Additional security for the preparation of the larger compresses when the muslin is new can be had by boiling them in a solution of permanganate of potash for about half an hour, after which they are treated with bisulphite of sodium in order to decolorise them. They are then washed in boiling water, so as to remove every trace of sulphurous acid, when they are dried and sterilised in the Poupinel stove. They can then be kept either in a solution of carbolic acid or sublimate. If ordinary sponges are used, they should be prepared by the permanganate of potash method, followed by decolorisation with either oxalic acid or bisulphite of sodium, thorough washing with sterilised water, and retention until required for use in a five per cent. carbolic solution. It may be well to have always some such sponges at hand if required, more particularly the larger and flatter ones. For all practical purposes in any private installation, the stove of Poupinel and the autoclave of Chamberland are sufficient for every purpose of sterilisation, whether of sponges, compresses, dressings, or instruments. The nickel jars in which these are sterilised, and sterilised towels wrung out of five per cent. of carbolic acid, enable us to carry our sterilised appliances any distance safely. (8) Failure arising out of infected instruments is not likely to occur with any care ; and if they be sterilised by means of a dry stove, and are of such a kind that they can have their blades and handles easily detached, so that the joints may be thoroughly subjected to the necessary heat. Danger more frequently arises from the use of instruments infected during the operation, and which are not re-sterilised at the time. This is perhaps best obviated by having always at hand a nickel stove in which the water containing the sulphide of sodium is kept boiling, and into which the suspected instrument can be placed for some minutes before it is again used. This applies especially to needles which have been employed for suturing or ligaturing within the area of infected tissues. Hence the wisdom of having always prepared for any gynæcological operation a sufficient supply of all instruments that may possibly be called for, as in emergency imperfectly sterilised instruments may be used, or it may not be possible at the moment to re-sterilise an infected instrument. (9) While the position of Trendelenburg is invaluable in the majority of pelvic operations, it has its dangers with regard to asepsis from the tendency for infective fluids to gravitate from the pelvic cavity to the bowel, and thus infect the latter. Therefore, in such cases, the large flat natural sponges come in of use in protecting the bowel, and the extreme Trendelenburg position should be avoided. Judicious irrigation, with sterilised saline solution, followed by careful drying of any cavity and of the irrigated parts with gauze tampons or sponges, is the best means that we can adopt. If there be a fear of post operative hemorrhage, the iodoform gauze compress of Mikulicz, pressed down into the dried cavity, affords us the greatest security. No operation of any importance should be commenced without the sterilised needle for submammary injection of artificial serum being in readiness, together with the sterilised saline solution so proportioned as to make with the addition of sterilised warm water the strength of 7 in 1,000 at a temperature of 100 deg., to allow for cooling to 90 deg. (10) When an operation is completed, and the hæmostasis is assured and drainage if necessary provided, there are still remaining some most dangerous loopholes for sources of infection. These are to be found in the abdominal or vaginal toilet. The sterilised dressing for the wound, after the latter has been washed with 1 in 1,000 of formalin and dried, should be laid over it direct from the jar or bottle in which it has been sterilised or hermetically kept, and the same remark applies to the superficial sterilised wool covering. During any aseptic operation there should be close at hand to the operator either a lavabo with tap with sterilised water or a basin with antiseptic fluid, renewed from time to time, in which the hands can be rinsed ; and after dealing with infected parts, or any combined operation when passing from the vagina to the abdomen, re-sterilisation of the hands should be practised before again proceeding with the operation. It is a good plan to dust the surface of the closed wound with dermatol, which is readily sterilisable and is not irritating. I generally prefer, however, the washing of the surface of the skin with formalin and then the application of the sterilised iodoform gauze.—*Edinburgh Medical Journal*, *May*, 1900.

129.—INTERMENSTRUAL DYSMENORRHŒA.

By MALCOLM STORER, M.D.,

Boston ; Assistant in Gynæcology, Harvard Medical School.

[From Dr. Storer's paper. The cause of the pain seems to be very obscure :]

Every gynæcologist will doubtless recall a few cases in which there was present at about the middle of the intermenstrual period a set of symptoms, ceasing suddenly after a day or two, much like those associated with menstruation, but without any discharge of blood or quite the characteristic pain. This phenomenon, the *molimen uterin intermenstruel*, *dysmenorrhœ intermenstruelle*, of the French, the *Mittelschmerz* of the Germans, sometimes called "intermediate pain or dysmenorrhœa," if mentioned at all in the text-books, is stated to be very rare. I have, however, met with it no less than 18 times in 400 suitable cases in which I have inquired as to its existence this last summer. Gynæcologists are still so at variance as to its causation that a consideration of the subject may be of value. I present notes of 20 cases occurring in my own experience. [The author then gives details of 20 cases.]

To these 20 cases of my own I have added 25 more collected from the scanty literature on the subject. An analysis of these 45 cases shows the following facts:—(1) As regards the regularity of the pain, in all it appeared practically every month, except when pregnancy intervened. In 22 the pain always occurred on a definite day, from the beginning of the last menstruation. In 13 there was a variation of two days, and in four of four days. In two, with irregular menstruation, it occurred on a definite day before the next menstruation. (2) As regards day of appearance, counting from the first day of the previous menstruation, in 20 it appeared on the fourteenth day exactly, in seven it appeared from the twelfth to the fourteenth day, in six from the thirteenth to the fifteenth day, in two from the seventh to the tenth day, in two on the sixteenth day, in one on the fifteenth day, in one on the seventeenth day, and in one on the eighteenth day, menstruation here being five days late. Thus in 41 cases it came from the twelfth to the sixteenth days in 37. (3) As to its character, in a large number of cases its paroxysmal character was spoken of, the attacks either coming at intervals of several hours and lasting five to fifteen minutes, or else there being constant pain with marked exacerbations, often of the greatest severity, and subjectively much like labour pains. In about half the cases the pain resembles that of menstruation; in the rest it is "entirely different." In nine there was no pain with menstruation. (4) As to duration, in 10 it lasted two days, in nine three days, in eight one day, and in only four did it last four or more. In most of these it could be inferred that it reached its maximum on the first or second day. (5) As to seat, in 14 the pain was sharply limited to one side, with fairly regular alternations in two cases (Palmer and Marsh); in 12 it was more general. (6) As to the character of discharge, in none of these cases was there associated with the pain any discharge like that of menstruation, although in two it was slightly sanguineous. These were respectively cases of easily bleeding fibroids and diseased appendages, with hemorrhagic endometritis; both conditions apt to bleed on the slightest provocation. This lack of characteristic menstrual discharge is the chief reason for objection to the term "intermenstrual dysmenorrhea," as that implies menstruation, and, as I have shown, there is no menstrual discharge, and in more than half the cases the pain is different from that of menstruation. On the other hand, a marked increase of leucorrhœa is spoken of in 10, showing a decided temporary congestion. In my third and fourteenth cases there were bloody dejections during the pain.—*Boston Medical and Surgical Journal, April* 19, 1900.

130.—CONSERVATIVE OPERATIONS ON THE OVARIES AND TUBES.

By W. L. Burrage, M.D.

Dr. Burrage read this paper before the American Gynæcological Association. He had performed one hundred and thirty-seven operations on diseased uterine appendages with the object of preserving one ovary or a portion or portions of one or both ovaries with their tubes, or as much of the tubes as was reasonably normal in appearance. In eighty-five of these reliable information as to the present condition could be obtained at least a year after operation, and the results were included in the tables accompanying the paper, the cases being divided into the more severe and the less severe. In comparing the two it was found that gonorrhœa and syphilis were more prevalent, and that the symptoms had resulted more frequently from difficult labours or abortions among the more severe, and that the tubes were closed in a majority of the more severe, whereas they were open in all but one of the less severe. Pregnancy followed operation in four of the more severe and in all of the less severe. In none of the cases in which the closed tubes had been opened and new ostia formed did pregnancy follow operation. In all of the cases of subsequent pregnancy in both classes, except two of the less severe, the patients had had previous pregnancies. Anatomical cure was recorded in thirty-three out of fifty-seven cases which came under observation, and symptomatic cure in sixty out of eighty-five cases. It was advisable to do conservative operations in all cases in which the ovaries and tubes were not hopelessly diseased in all parts of their structure, except on patients who were near the menopause, or patients who had pronounced gonorrhœa of long standing, and on the rare cases of malignant disease. With the present methods of performing resection of the tubes, if both tubes were found closed subsequent pregnancy was not to be expected. In severe grades of inflammation of the appendages irrespective of causation, if the ostium abdominale of one tube was patent the prospect of subsequent pregnancy after the preservation of a portion of the ovary was about one in four and a quarter, or 23.5 per cent. In less severe grades of inflammation under similar conditions of tube and ovary, the prospect of subsequent pregnancy was about one in two and a quarter, or forty-four per cent. In women who had borne children, in both classes, subsequent pregnancy might be expected in thirty-five per cent., whereas in previously sterile women it might be looked for in only five per cent.

In the discussion, Dr. Philander A. Harris said that in these cases there was no disease in the ovary. For the past two years he had scarcely removed an ovary, the only cases having been those clearly of ovarian abscess, and he knew that pregnancies had occurred subsequently. The personal inferiority a woman felt when menstruation had ceased was a matter not to be forgotten. It was not the mere matter of having children, but there was a personal element to be considered. He was interested to know how many cases of pregnancy had occurred in women from whom both tubes had been amputated close to the uterus.

Dr. J. Riddle Goffe said he had done nearly one hundred of these conservative operations. His work had been done very largely through the vaginal incision, as he very much preferred that route of attack. When there were large, bulging ovaries, he used the cautery to resect, and when there was a cystic condition he used the cautery to burn out the cyst.

Dr. Burrage said he had operated twice on cases in which there was no symptomatic and anatomical cure, though there were several other cases in which operation was required. Here the patients would not be operated upon. He had used the cautery on many cystic ovaries after the manner described by Dr. Goffe. He had seen no case of pregnancy follow amputation of both tubes, or when both tubes were closed.—*Medical Record*, *May* 19, 1900.

131.—BACKWARD DISPLACEMENTS OF THE UTERUS.

By J. A. Mansell Moullin, M.B., M.R.C.P.,
Physician to the Hospital for Women, Soho, &c.

[Dr. Mansell Moullin thus speaks of pessaries :]

The number and variety of pessaries is innumerable, but those of most value are the Hodge and the Watchspring ring for backward displacement, and Zwanck's butterfly pessary, and the cup-and-stem for the severer forms of prolapse. Intra-uterine stem pessaries of all kinds are to be regarded as dangerous instruments, and no longer have a place in gynæcological treatment.

There are certain rules which are applicable to the use of pessaries of all kinds :—(1) Be sure of the diagnosis ; make quite certain that the body found in Douglas's pouch is the retroverted body of the uterus. (2) Ascertain that the uterus can be restored to its normal position without difficulty or pain. (3) Be sure the pessary fits easily, without pressure on bony parts, or causing distension of the vagina. (4) Instruct patients how to remove pessaries and to re-insert them. All pessaries should be removed at night or periodically. An exception to this rule must be made in the case of the Hodge pessary, which can only be replaced satisfactorily by the practitioner. (5) The vagina should be douched with some antiseptic on removing the pessary for purposes of cleanliness.

The action of the Hodge pessary demands a brief explanation. (1) By stretching the vagina upward and backward it draws the cervix in the same direction. The uterus then turns on its central pivot of ligamentous attachment, as on a fixed pivot, and the fundus is consequently tilted forward. (2) Secondly, if the posterior *cul de sac* of the vagina is sufficiently deep to allow the pessary to rise high enough behind the fundus, it acts as a chair or splint, and prevents the fundus from falling backward. The idea of a Hodge pessary acting as a lever is retained in modern text-books, but appears to me far-fetched, and quite unnecessarily adds to the difficulty of explanation.

When the cervix is inserted into the summit of the vagina, the Hodge cannot rise behind the uterus, and the fundus simply falls over the top of the instrument. The Hodge pessary is supported by the soft parts alone, and therefore it is necessary that the vagina should retain its tubular shape for it to be of service. If that has been lost, as in a woman who has had many children, a Hodge pessary is useless, and only rolls about in the pelvis. A ring pessary is then of use. It should be sufficiently thick and the spring sufficiently strong to retain its circular shape. It should always be removed at night and replaced by the patient in the morning. The ring differs from the Hodge in that it gets no support from the vagina, but finds its resting point on the walls of the pelvis, the spine and tuberosities of the ischium, and the sacro-sciatic ligaments extending backwards from them. Its action is that of the Hodge above described. By drawing the vagina backwards it draws the cervix in the same direction and so tilts the fundus forwards. It does not materially raise the uterus, but it prevents further descent, and it is a very useful pessary in practice. I often use it in preference to a Hodge pessary when it fits the vagina comfortably. It has the advantage that the patient can attend to it herself. It is not a suitable pessary when the vagina retains its tubular shape, as in nulliparous women. When the ovaries are prolapsed pessaries are seldom of much use, and sometimes, by pressure, only seem to increase the trouble.

I must add I do not make the same extensive use of pessaries for minor degrees of displacement that I formerly did. When we consider how very little suffering is caused, sometimes by prolapse in the major degree, a suspicion arises that the importance attached to the minor forms is somewhat overrated. Where the indications are clear the best results attend their use, but it does not necessarily follow because a uterus is retroflexed that the symptoms complained of are due to the flexion; nor is it possible with any pessary devised to restore every case of flexion and maintain it in position.—*The Physician and Surgeon*, *March* 29, 1900.

132.—RETROVERSION OF THE UTERUS, WITH ADHESIONS.

By Arthur E. Giles, M.D., F.R.C.S.,

Surgeon to Out-Patients, Chelsea Hospital for Women.

[From Dr. Giles's paper on Backward Displacements of the Uterus :]

Causes. — This condition is due to pelvic inflammation complicating retroversion. In some cases the displacement is the primary condition, and the subsequent onset of salpingitis, leading to peritonitis and the exudation of plastic lymph, causes the uterus to be held down in its faulty position. In other cases salpingitis comes on when the uterus is in its normal position; the endometritis, which is nearly always the percursor of salpingitis, brings about hyperplasia of the uterus, which becomes enlarged and heavy. There is a great tendency for such a uterus to assume a backward position.

Symptoms.—The symptoms found are those characteristic of pelvic inflammation, the uterine symptoms proper being often overshadowed. Among the latter, when marked, we shall note dysmenorrhœa and menorrhagia. On examination the uterine body is felt posteriorily in the pouch of Douglas: the tubes and ovaries are usually enlarged and matted together, forming firm swellings at the sides of the uterus; sometimes the lateral swelling is considerable, being formed by a pyosalpinx, a tubo-ovarian abscess, or a suppurating ovarian cyst. Such cases are not infrequently met with. On attempting to move the uterus it is found to be firmly held down. Naturally in such cases the importance of the retroversion is quite secondary to that of the pelvic inflammation.

Diagnosis.—This usually causes little difficulty. But it is important to remember that a uterus may appear to be fixed when it is simply held down between the utero-sacral ligaments, as may happen when the body of the uterus is enlarged. In such cases the appendages are usually normal, and this will serve as a distinguishing feature; moreover, though the uterus may resist pressure applied digitally through the posterior fornix, it can generally be raised without much difficulty or the exercise of much force, by means of the sound introduced into the uterine cavity.

Treatment.—To introduce a pessary when the uterus is held down by adhesions is, of course, to add risk to inefficiency. "The one thing needful is to restore the mobility of the uterus, If time be no object, this may often be obtained by a somewhat prolonged course of rest in bed, combined with a depletory treatment of vaginal irrigation and tampons of glycerine, with or without ichthyol (five to ten per cent.). During this treatment an occasional attempt must be made to raise the uterus; if the sound be used for this purpose, it must be employed with great care. After some time it will often be found that the uterus can be moved a little, and by degrees the normal position can be restored. When this occurs, a Hodge pessary is introduced, and kept in for some time."

When the adhesions have become so firm that they cannot be overcome by this means, the only alternative to a life of chronic invalidism is to open the abdomen, free the uterus from its adhesions, and suture it to the abdominal wall. I need hardly say that this serious measure must not be lightly undertaken; the matter should be stated plainly to the patient, with the consequences of the one course and the risks of the other. My experience is that most patients readily accept the risk for the sake of the cure. I have adopted this procedure three times within the last fifteen months, and the result has been most satisfactory; the patients have expressed themselves as enjoying better health than they had known for years, and they are all going about and performing their household duties without any inconvenience or drawback.

In another case I was not able to carry out the complete operation, for I found on opening the abdomen that the adhesions had caused extensive matting, involving especially the bowel and omentum, which were adherent to the back of the bladder. The separation of these adhesions was out of the question, as it would have been too risky an undertaking; so, working from one side, I had to content myself with separating the uterine adhesions and lifting the fundus forward. The union of the intestine and bladder prevented ventrofixation. Nevertheless, the operation gave the patient marked relief, and when I last saw her a week or two ago, which was about twelve months after the operation, the uterus was keeping in good position, and she had lost her pain and was menstruating normally.—*British Journal of Gynæcology, November*, 1899.

133.—THE OPERATIVE TREATMENT OF FIBROIDS.

By G. E. HERMAN, M.B., F.R.C.P., F.R.C.S.,
Senior Obstetric Physician and Lecturer on Midwifery at the London Hospital.

[From Dr. Herman's paper :]

The existence of a fibroid is not sufficient cause for removing it. The reasons that call for operative interference are, first, hemorrhage, such as, if not restrained, is enough to weaken the patient. Many fibroids cause only slight hemorrhage, and that hemorrhage can be brought within limits compatible with health by the use of ergot. When this is the case no operative treatment is called for. Again, fibroids may call for operation on account of their size—fibroids sometimes become the largest tumours which are found in the body—they may be so large as to make the patient unwieldy, and even bedridden, without causing any symptoms beyond those due to their bulk. Then, a fibroid may be relatively large in relation to the space in which it lies. A small fibroid in the pelvis may press upon the urinary organs, or upon the bowel or nerves, and cause symptoms. This may be a sufficient reason for performing an operation. Further, when a fibroid rapidly increases in size, this may indicate that the tumour is degenerating or is a sarcoma rather than a fibroid. Those are the chief reasons for operative measures.

There is no such thing as an operation which is the best for every fibroid. The first operation I shall speak of is that which is the best if it can be done, namely, the removal of the fibroid. If you can remove it without taking away anything else, that is the best possible treatment. Supposing we have a tumour which does not so project into the uterine cavity that we can be sure of removing the tumour without injuring the uterus. In that case, if the tumour is causing symptoms, the question is one of either enucleation or of hysterectomy by the vagina. If the uterus can be pressed down into the pelvic brim, it ought to be possible either to remove it or to enucleate the tumour by the vagina. The enucleation of the tumour means that the operator proceeds as for hysterectomy, and opens the uterus along the anterior wall. If the tumour is in the anterior wall you will see it, and it may be possible to shell it out. Other tumours may be shelled out with greater or less difficulty, according to their size and situation. The tumours may be removed from their beds and the uterus sewn up again. This can be done, but it is not often practised ; if the patient is old, say over forty years, she is so near the cessation of the uterine functions that it is not important to leave the uterus behind. And a uterus in which various cavities have been torn by enucleation is so damaged that to remove it is better. The cases are few in which a patient with fibroids is young enough to make it worth while to run any additional risk involved in conserving the uterus. But if, when you proceed to hysterectomy, you can easily remove the tumour and leave the patient her uterus, that may be done, especially if the patient be young. One advantage of the vaginal method over the abdominal is that it is easier to separate the bladder and ureters from the uterus from below than it is from above. Vaginal treatment of any kind is only appropriate when the tumour is not larger than a child's head. and can be pressed down into the pelvis. But there are fibroids which cannot be pressed down into the pelvis, and if that is not possible the tumour cannot be removed by the vagina, and some abdominal operation must be performed.

When you open the abdomen to remove the fibroid, there are four different operations which may be done. They are (1) enucleation, (2) oöphorectomy, (3) supra-vaginal amputation of the uterine body, and (4) hysterectomy, or pan-hysterectomy as it is sometimes called, though the prefix "pan" is superfluous. Two proceedings have been described under the term "enucleation." With one the name of Professor Martin, of Berlin, is associated ; it consists in opening the uterine cavity, shelling out the tumour, and sewing up the uterus again. Statistics show that the mortality from Martin's operation is higher than that of amputation of the uterine body, therefore I do not practise or recommend it. The other is making incisions over the tumour, shelling the tumour out, and then closing the cavity left. If you have a tumour which projects on the surface of the uterus, there can be no harm in enucleating the tumour. If you enucleate the tumour and find you cannot easily close the place in which it lay, you can amputate the uterus. If the tumour projects much out at the side, it may separate the folds of the broad ligament so that you cannot feel the uterine artery. There, then, is an advantage in enucleation, for after enucleating the tumour you can identify the uterine artery with ease. So that enucleation is both of assistance to hysterectomy and may be performed for itself. For most cases the best operation is the supra-vaginal amputation of the uterine body. Whether the ovaries are removed depends on the age. If the patient be young you may leave them, because by so doing you will avoid a premature climacteric. The other operation is what is called pan-hysterectomy or hysterectomy.

There is another proceeding, and that is oöphorectomy. Fibroids, when the ovaries are removed, shrink and cease to grow. It is said that this does not happen in every case. It has happened in every case in my experience, and my suspicion is that in the cases in which that effect has not followed the assumed removal of the ovaries, it has been because the ovaries were not completely removed. You cannot tell how far ovarian tissue extends along what appears to be the ligament of the ovary. The only way of ensuring complete removal of all ovarian tissue is to take care that the ligatures are a good distance from the bulk of the ovaries. But effective as oöphorectomy is, it cannot be more effective than removal of the fibroid itself. In large fibroids, the difference in the mortality between oöphorectomy and amputation of the uterine body is slight, because with a large fibroid the broad ligaments are expanded, and it is difficult to get a good pedicle for oöphorectomy. Moreover, large fibroids often so displace the ovaries as to make it difficult to get at them. And then, we know not yet what are the ulterior effects of the operation. It is said that it is sometimes followed by insanity; no doubt this is so, but I know of no evidence that it is oftener followed by insanity than is any other operation of similar severity. Operation on any patient is a shock and a strain on the nervous system, and operation is sometimes the exciting cause of insanity, but removal of the ovaries has no more to do with insanity than any other operation of equal gravity. Then it is said that a fibroid which has shrunk after oöphorectomy is apt to become the seat of sarcomatous or some other kind of degeneration. I can recall two cases in which that has appeared to be the case, but it is a subject upon which we have at present no exact knowledge. All we can say is that a fibroid which has been made to shrink by the removal of the ovaries is not a healthy tissue, and a patient with such a degenerate fibroid within her is not so well off as one in whom the tumour has been removed. If the patient be young she may complain of the early menopause which is produced by the removal of the ovaries. If the tumour is removed and the ovaries are left, the natural functions are not interfered with. So in that way the treatment of fibroids by oöphorectomy is inferior to removal of the fibroids or of the part of the uterus in which the fibroid has grown. But there may be cases in which oöphorectomy may have to be considered. Supposing you have to deal with a uterus which is adherent, or round which the cellular tissue is thickened, or in which a small tumour grows out laterally. In a uterus which is enlarged laterally, often the uterine arteries or ureters are displaced. It may then be safer to remove the ovaries. It is only in such cases, which are few, that oöphorectomy can now be considered as a desirable thing.—*Practitioner*, *December*, 1899.

134.—UTERINE FIBROIDS COMPLICATING PREGNANCY.

By M. ROSENWASSER, M.D.,
Cleveland, Ohio.

[From Dr. Rosenwasser's paper. The details of cases are omitted :]

Uterine fibroids constitute the most serious complications of pregnancy. Previous to the advent of abdominal surgery and antiseptic midwifery more than one-half of the mothers and two-thirds of the children died. The labours allowed to go to a natural termination ended as fatally as did those subjected to surgical interference. Careful antisepsis and improved technique have reduced the maternal mortality to 37 per cent. in cases in which no interference occurred before labour. The management of this grave complication is therefore still at fault. We must aim to obtain better results. The loss of mothers ought not to exceed 10 per cent. The viable children ought nearly all to be saved. The number of cases recorded within the last ten years is as yet insufficient to enable us to formulate any fixed rules. Each case is a rule unto itself, and must be managed in accordance with the best interests of the mother and, when possible, of the child.

For convenience of discussion the report is classified under arbitrary headings, some cases belonging to two or more subdivisions.

I. BEFORE DELIVERY.—(*a*) IN THE INTEREST OF MOTHER AND CHILD. (1) *Non-Intervention.*—Whenever, on account of its location, the tumour will not interfere with the delivery, or when its moderate growth will admit of delay until after the viability of the child, a conservative course is clearly indicated.

(2) *Myomectomy.*—Myomectomy for pedunculated fibroids is as safe in its results as is ovariotomy under the same conditions. The enucleation of fibroids has been followed by abortion in quite a proportion of cases; according to recent statistics there were eight abortions in twenty-one myomectomies. The indications are therefore limited. Myomectomy may be indicated after viability of the child, in preference to hysterectomy, when it is desirable and possible to preserve the uterus, or during labour when myoma of the cervix obstructs the pelvis and cannot be dislodged.

(3) *Porro Operation.*—After viability of the child or at term, if the tumour obstructs delivery and the uterus must be sacrificed, the Porro operation has hitherto proved the safest procedure.

(4) *Vaginal Cæsarean Section.* — Dührssen's successful delivery of a woman at term through the cervix uteri bisected in its antero-posterior diameter has encouraged him to propose a like delivery in certain cases of myoma low down in the uterus. His advice has not yet been followed.

(*b*) IN THE INTEREST OF THE MOTHER. (1) *Induction of Abortion.*—If the child must be sacrificed the choice lies between abortion and hysterectomy. To my mind the accidents attending hysterectomy can be more readily controlled than can the complications of an abortion, in which the hemorrhage may become fatal or the fibroids may slough and lead to sepsis. Often an abortion is impracticable because the cervix is beyond reach. Among the cases reported as having aborted the death rate has been 12 per cent.

(2) *Hysterectomy.*—There are cases in which, on account of intolerable distress from abdominal distension or pressure, or from interference with vital functions, or from constant, intense anxiety, we are obliged to do a hysterectomy as an emergency operation.

II. AFTER DELIVERY. (*a*) *Non-Intervention.*—We presume that no one would unnecessarily meddle with a case after safe delivery. One is, however, liable to be called upon to check a violent postpartum hemorrhage or to deal with aseptic uterus. These sequelæ may be controlled by the means usually applied when no tumour is present, but must in some instances be promptly and radically dealt with.

(*b*) *Hysterectomy*, indicated by (1) *Recurrent Hemorrhage.*—Postpartum hemorrhage need not take place at the time of confinement, but may set in during the puerperium and may continue to recur, compelling ultimate recourse to hysterectomy. In non-septic cases this involves no more than the ordinary risk of suprapubic amputation.

(2) *Septic Infection.*—The tumour may slough or become infected, or the placenta may be retained, undergo putrefaction, and cause acute sepsis. If the infection is local, hysterectomy is the treatment by choice. If general, one must be guided by the conditions surrounding the case. No time ought to be lost in attempts to remove a putrid placenta from a fibroid uterus, if situated beyond the tumour and difficult of access. The chances for life are improved by removal of the uterus, including tumour and placenta, provided the infection be still circumscribed. If the infection has gone beyond the pelvic limit my own inclination is against surgical measures, which only add the elements of shock and hemorrhage to the already debilitated condition caused by the sepsis. When we cannot tell whether or not the infection has crossed the line, the patient is entitled to the benefit of the doubt by immediate operation.—*American Journal of Obstetrics, November*, 1899.

135.—CANCER OF THE UTERUS.

By Henry C. Coe, M.D.,
New York.

The important thing with regard to uterine cancer is early diagnosis. As Dührssen says, we must educate not only the practitioner, but the laity, to recognise the early signs of cancer of the uterus, so that they may come soon enough for operation. As it is now, less than 30 per cent. of the patients who present themselves in German clinics suffering from cancer of the uterus are operable. In this country it is estimated that not much more than 2 per cent. of the cases are operable when they come to the clinics. Of course, the number of hopeful cases is much larger in private practice. As the result of patients coming earlier for operation, the German statistics are much better than the American and English statistics in this matter. At Edinburgh, out of some 250 cases of uterine cancer operated on there were only 15 radical cures. Leopold had 17 radical cures out of 76 operations. This difference is not due to the fact that cancer in Edinburgh is different from cancer in Germany, although one Edinburgh surgeon suggested this possibility, but it is due to the fact that the diagnosis is made earlier, the patients come sooner for operation, and there is a better operative technique.

Symptoms of Uterine Cancer.—It is not necessary to have the classical symptoms of pain, tumour, and foul discharge in order to be able to make the diagnosis of uterine cancer.

When these symptoms are present the case is very probably beyond the reach of operative procedures. The important symptom is irregular bleeding from the uterus. The general practitioner, as well as patients themselves, must be given to understand that the approach of the menopause does not justify the existence of irregular bleeding. Where such hemorrhage exists it is always suspicious, especially if the patient is between forty and fifty. If there are no signs of cancer to be found on bimanual palpation a wedge-shaped piece should be cut from the cervix, or the interior of the uterus curetted, and the specimens obtained submitted to microscopic examination for the positive decision of the question as to whether cancer exists or not. The existence of irregular bleeding is sufficient of itself to justify operation. There are two things that may lead to an error of diagnosis in this matter. A small fibroid may exist, or senile endometritis may cause the irregular hemorrhage. For the fibroid operation would be indicated; if endometritis exists no harm will be done by the operation.

Contraindications to Operation. -The important contraindication to operation is the invasion of other tissues by the cancerous process. In order to decide whether this invasion has taken place or not, the patient should be examined under an anæsthetic. Enlarged glands cannot be palpated with any assurance, and they are frequently found after operation in positions where it might have been expected that they could not escape the examining finger. It is important to differentiate between true neoplastic adhesions and inflammatory adhesions.

Choice of Operation.—As to whether the vaginal or the abdominal route should be taken in operating is a subject that divides surgical opinion a great deal. The vaginal route is growing in favour. Cancer of the corpus uteri will nearly always have to be removed by laparotomy. In very stout or in very weak patients it may be necessary to try the vaginal route even for these cases. For cancer of the cervix a serious question exists as to whether the cervix should merely be amputated or the whole uterus extirpated. As a rule, better ultimate results are obtained by total extirpation of the uterus. Of late years an attempt has been made to do for cancer of the uterus what has been accomplished by Halsted's operation for cancer of the breast. The idea was to remove all the pelvic tissue that seemed liable to be infected because of the lymph drainage from the uterus. Needless to say, this radical procedure adds very seriously to the mortality of the operation. It can only be undertaken in strong, healthy patients. The primary mortality in these cases is at least 20 per cent. The hope of radical cure given by the radical operation, however, seems to justify the added risk. Doubtless, too, the danger of the operation and its mortality and the length of time necessary to perform it will be gradually lowered by improvement in technique and by the acquirement of the special skill necessary for this class of operations.

Palliative Treatment.—This should not be entirely neglected. Despite the spread of knowledge with regard to cancer, a large number of cases still come to the surgeon only when operative measures are absolutely hopeless. For these the use of the cautery or the sharp spoon are clearly indicated. The symptoms are very much relieved, and the progressive course of the disease is hindered for a time. The foul discharge, which so often makes life miserable for the patient and so unpleasant for her friends, is completely done away with.—*Medical News*, *April* 7, 1900.

136.—VAGINAL ENUCLEATION *v.* VAGINAL HYSTERECTOMY FOR FIBROIDS.

By Henry Briggs, M.B., F.R.C.S ,

Professor of Midwifery and Gynæcology, University College, Liverpool.

[From Mr. Brigg's paper :]

By the vaginal route I have operated for uterine fibroids (not including polypi) in 39 cases ; in 25 by hysterectomy, in 14 by enucleation. The object of my communication, chiefly based on these cases, is to draw attention to vaginal enucleation as a more frequently possible substitute for vaginal and abdominal hysterectomy in the treatment of submucous and interstitial growths situate below the umbilicus, and approachable *per vias naturales.* Amongst the growths alluded to, there are variations in the degree of protrusion towards the mucous membrane, in the size, and in the connections with the uterine walls. In some instances a portion of the tumour may feel to be subserous by the ordinary vaginal and bimanual examinations. These difficulties emphasise the need of general anæsthesia, a complete intra-uterine digital exploration, and an attitude prepared (with the consent of the patient) for either enucleation or hysterectomy. When the uterus is enlarged, as it is by these growths, the index finger rarely reaches beyond the level of the internal os until an incision through the walls of the cervix has opened up the canal and shortened the distance. In my cases the canal of the cervix, dilated spontaneously or dilated artificially, has been further opened up, when required, by a central anterior incision, up to the level of the internal os, the bladder having been separated from the wall of the cervix in front, as in vaginal hysterectomy. I am not aware of having opened the utero-vesical peritoneum in any of my cases.

Péan recommended a complete separation of the cervix all round its circumference by incisions in all fornices, and then lateral sections through the cervical walls and lower uterine segment up to the level of the growths. Péan's work was on a more extensive scale in all respects than that of any other operator: he did not publish the whole of the results of his brilliant operations for fibroids by piecemeal removal and enucleation. He mentioned the length of time and the fatigue entailed on the part of the surgeon by the operations. He resorted to hysterectomy, after failing to enucleate, on many occasions. In this connection I may recall the circumstance, as some proof of the adaptability of the anterior section of the cervix to my cases of enucleation, that in only one instance did I abandon enucleation and perform hysterectomy. But in another case, after having completed the enucleation of a large growth, partly intra-ligamentous, the vaginal roof was so excessively lax and heavy that I feared my patient, aged 27, would subsequently suffer from prolapsus, and be unable to support herself by her work as an upholsteress, her husband having deserted her. I extirpated the uterus. The delivery, or accouchement, of the tumour was effected by section and piecemeal extraction, after the method elaborated by Péan from the plan originally devised by Emmet. The two exceptions to this method were one in which traction on the solitary growth inverted the uterus so that I could dissect off the growth and return the inverted fundus; and in another, the growths, eight in number, were mostly tiny, and gave no trouble during removal.

It must be admitted by the opponents of enucleation that exploration of the uterus, especially at the close of the operation, is a considerable safeguard against an incomplete operation. Hemorrhage is always trivial, the uterus is packed slightly with cyanide gauze (which may be allowed to remain for two or three days) and the cervix is united by suture, the anterior vaginal flap falls into position. Of the 14 cases of enucleation tabulated, 13 patients made uncomplicated recoveries. In one case the patient suffered from cellulitis accompanied by fever for seven weeks. The remote results have been so far encouraging; the cervix, when divided, healed, leaving a depressed cicatrix in the anterior fornix. In shortly discussing the scope of vaginal hysterectomy, I should allot to it all cases in which enucleation would be incomplete or impracticable. The reports recently received from patients and doctors concerning the relief afforded after the operations of vaginal hysterectomy are of the most satisfactory and unqualified kind.

Conclusions to be submitted :—Where operative treatment is required for uterine fibroids (not including polypi), pelvic or abdomino-pelvic, below the level of the umbilicus and approachable *per vias naturales*,—(1) Greater safety and better remote results are obtainable by the vaginal than by the abdominal route. (2) Exception in favour of abdominal enucleation in well-defined sub-serous growths, the uterus normal in length, in women below 45 years of age. (3) Vaginal hysterectomy is the best and safest operation for sub-serous growths where the dimensions of the uterine cavity are increased, probably by interstitial or sub-mucous tumours, or where the latter are known to coexist. (4) Vaginal enucleation ought to be more frequently adopted as the best operation for sub-mucous and interstitial tumours. (5) Complete anterior section of the dilated cervix renders exploration of the uterus more reliable and enucleation easier. (6) Piecemeal extraction of growths merely lengthens the operation. — *Liverpool Medico - Chirurgical Journal, February*, 1900.

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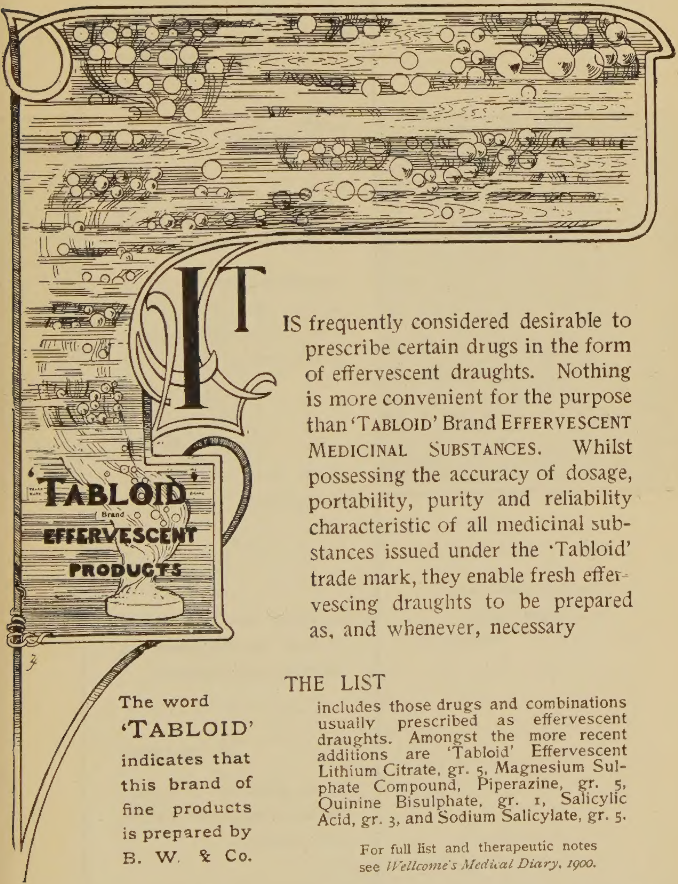

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